



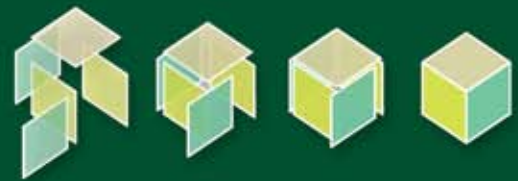
**SIGGRAPH2006**

# Electronic Art and Animation Catalog

A Computer Graphics Annual Conference Series, 2006  
A Publication of ACM SIGGRAPH



# Electronic Art and Animation Catalog



## Art Gallery

Bonnie Mitchell

page 3

## Computer Animation Festival

Terrence Mason

page 174

2B0ST0N6



The Association for Computing Machinery, Inc.  
1515 Broadway  
New York, New York 10036 USA

ISBN 1-59593-365-4  
ISSN 1098-6154  
ACM Order No. 435061

Additional copies may be ordered pre-paid from:  
ACM Order Department  
P.O. Box 11405  
New York, New York 10286-1405 USA

Or, for information on accepted European currencies  
and exchange rates, contact:  
ACM European Service Center  
108 Cowley Road  
Oxford OX4 1JF United Kingdom  
+44.1.865.382338  
+44.1.865.381338 fax

Credit card orders from U.S. and Canada:  
800.342.6626

Credit card orders from other locations:  
+1.212.626.0500

Single copy orders placed by fax:  
+1.212.944.1318

Credit card orders may also be placed by mail.  
Electronic mail inquiries may be directed to:  
orders@acm.org

Please include your ACM member number and  
the ACM order number with your order.

## Image Credits

Cover  
(background image)  
*seri\_C A\_1* © 2004 Floyd Gillis

(small cubes)  
*Introspection* © 2005 Dennis H. Miller  
*HOEReographien* © 2005 THEATER DER KLÄNGE  
*Insanely Twisted Shadow Puppets - 12 Interstitials* © 2005 Michel Gagné

page 3  
*Cybernetic Ceremony* in Black Velvet © 2005 Sherban Epuré

page 9  
*0512* © 2005 Terry Calen

page 10  
*Queensbridge Wind Power* © 2005 Andrea Polli

page 21  
*shape.69c* © 2005 Tim Borgmann

page 109  
*AUDIO BALLERINAS* © 2005 Benoit Maubrey

page 126  
*Swim* © 2005 Sil van der Woerd

page 141  
*Raphael Voglass* © 2000 Charles A. Csuri

page 146  
*Gossip* © 1990 Charles A. Csuri

page 149  
*24hours Walking Manhattan* © 2005 Joseph Tekippe

page 174  
*Musashino Plateau* © 2005 Nobuo Takahashi

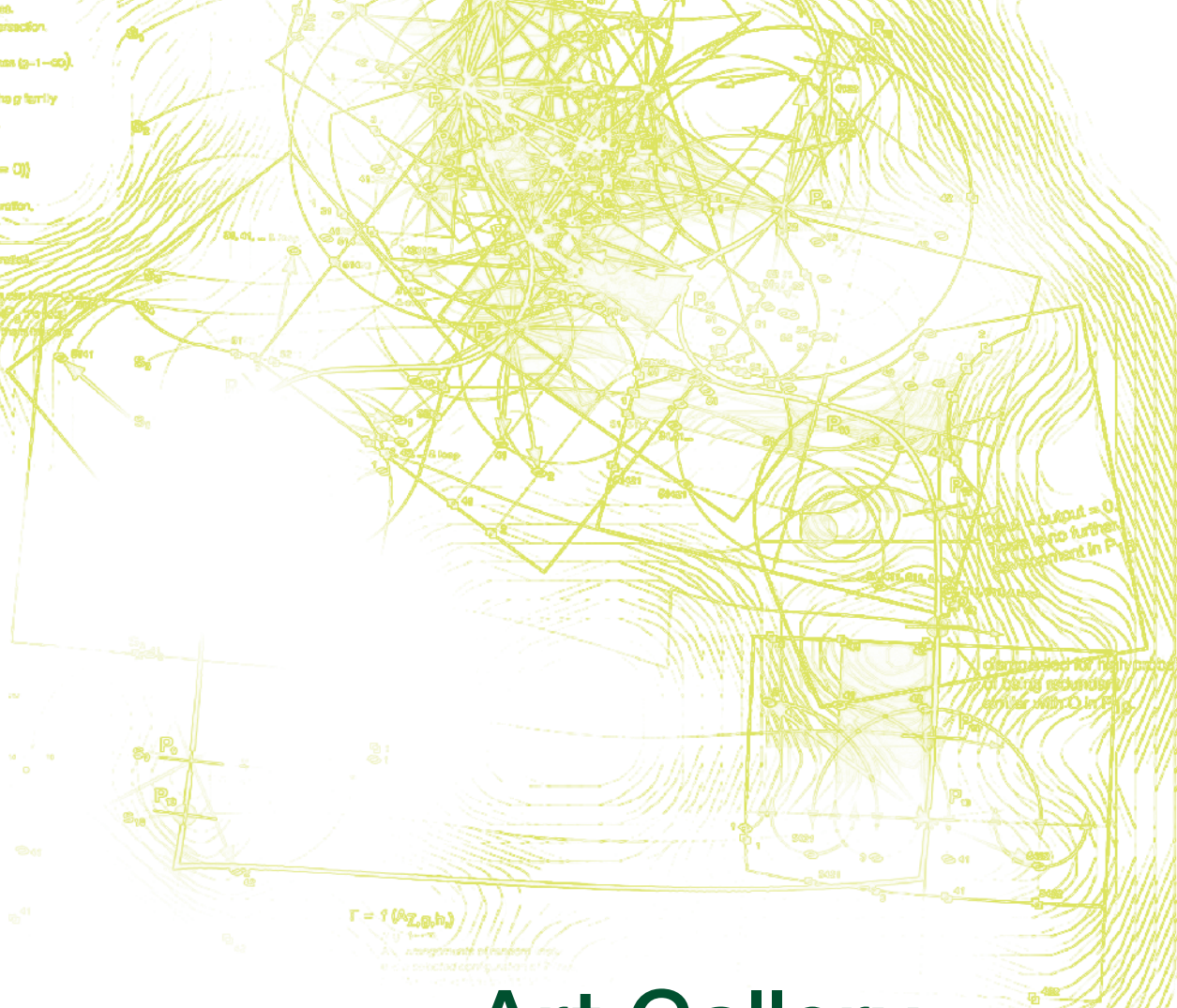
page 177  
*Good is Good* © 2005 PSYOP, Inc.

page 179  
*Kuhfo* © 2005 Filmakademie Baden-Württemberg

Applying the arrangement of intersecting lines, the number of subsets closing in a given intersection, be the  $n$ , a constant chosen number, there is  $2^n$  different ways to arrange these lines ( $2^n - 1 - 2^n$ ), if the number of lines in our figure,  $n$  is the number of lines and just collection inside the  $g$  family from a total of  $C_n^{g-1} = \frac{((n^2-n)/2)}{(n^2-n)/2n}$

The current line is:  
 $(D_{g,h,l} \cdot (a_{g,h,l}x + b_{g,h,l}y + c_{g,h,l} = 0))$   
 $g,h$  - number of the current configuration,  
 $l$  - one of the  $n$  lines inside the current configuration,  
 $l = 1, \dots, n$ .  
 $P_{g,h,l} = D_{g,h,l} \cap D_{g,h,l}$   
 $l_j$  - the number of a line in the current configuration,  
 $l = 1, \dots, m$ , and  $l_j$ .  
 There are  $(n^2-m)/2$  points of intersection which can be grouped into  $m$  groups of  $n$  which will also be  $(n^2-m)/2$  number of possible polygonal chains but only those that are

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100



$$\Gamma = f(\lambda, Z, g, h)$$

$\lambda$  - arrangement of numbers from 1 to  $n$  selected configurations of  $n$  lines

# Art Gallery



CHAIR  
**Bonnie Mitchell**  
 Bowling Green State University, Ohio



# Table of Contents

- 7 The SIGGRAPH 2006 Art Gallery Team
- 9 Introduction to the *Intersections* Exhibition

## Jury Artworks

- 11 **Anne Behrnes**  
*Contemplations on Inner Space 4*
- 12 **Paul Brown**  
*4^16*
- 13 **Shawn Decker**  
*Green*
- 14 **Jorn Ebner**  
*Leonardo Log*
- 15 **Paul Hertz**  
*Ignotus the Mage*
- 16 **Kenneth A. Huff**  
*Contemplations: 2005.2*
- 17 **Andrea Polli**  
*Queensbridge Wind Power*
- 18 **Philip Sanders**  
*Studio*
- 19 **LiQin Tan**  
*LavaBody + 6*
- 20 **Jana Whittington**  
*Exertions of Exodus*

## Artworks

- 22 **Ergun Akleman**  
*Symmetric Sculptures*
- 23 **Christopher Bauder**  
*electric MoOns*
- 24 **Joanna Berzowska**  
*Krakow: a woven story of memory and erasure*
- 25 **Alain Bittler**  
*Brush Traces I*
- 26 **boredomresearch**  
*biomes*
- 27 **boredomresearch**  
*randomSeed 001*
- 28 **Tim Borgmann**  
*Shape.69c*  
*Shape.53a#2*
- 29 **Adam Brown and Andrew Fagg**  
*Bion*
- 30 **Keith Brown**  
*Through*
- 31 **Gil Bruvel**  
*Mask of Intent*  
*Mask of Sleep*  
*Mask of Whispers*
- 32 **Brit Bunkley**  
*Sheep Jet Head*
- 33 **Sheriann Ki Sun Burnham**  
*Tortuosity #59c*
- 34 **Terry Calen**  
*0512*
- 35 **Alessandro Capozzo and Katja Noppes**  
*Exuvia*
- 36 **Alexdrina Chong**  
*Axiomatic Wisdom*
- 37 **Sandra Crisp**  
*Global Happenings Excel 23*  
*Infoscan 4*
- 38 **Mark Cypher**  
*Biophilia*
- 39 **Juliet Davis**  
*Altar-ations*
- 40 **Hans Dehlinger**  
*DSCN0779.1CC*
- 41 **Leah Dixon**  
*TEMPLE: Time Tapestry*
- 42 **Scott Draves**  
*Dreams in High Fidelity*
- 43 **Ed Eaton**  
*Wall Sculpture with Postits*
- 44 **Sherban Epur **  
*Cybernetic Ceremony in Black Velvet*

- 45 **Lisa Erdman**  
*Annual Checkup: Pharmaceuticals for the 21st Century*  
*Jesurex*  
*Abstinen*  
*Homotrol*  
*Ethnixox*  
*Patriotec*  
*Consumerin*
- 46 **fi5e**  
*Graffiti Analysis*
- 47 **Miguel Fiadante**  
*Dreams Stage 3- Procession*
- 48 **Sadam Fujioka and Osamu Sambuichi**  
*Code*
- 49 **Martha Carrer Cruz Gabriel**  
*Voice Mosaic*
- 50 **Greg Garvey**  
*Suprematist Composition V*
- 51 **Phillip George**  
*Mnemonic 23*
- 52 **Murat Germen**  
*Reading the Space as an Entity*
- 53 **Madge Gleeson**  
*Rocking Circle C*
- 54 **Gene Greger**  
*Psychopharmacology*
- 55 **Jefferson Y. Han**  
*Media Mirror*
- 56 **Peter Hardie**  
*UpDown Fall*
- 57 **David Hart**  
*Blot 2005/01/02/10*  
*Blot 2005/11/14/368*
- 58 **Jean-Pierre H bert**  
*Rosettes grises*
- 59 **Yeoh Guan Hong**  
*Shifting Nature*
- 60 **Troy Innocent**  
*Scenes from Ludea*



- 61 **Sergi Jordà**  
*the reacTable\**
- 62 **Toshihiro Kamei**  
*CODE\_LINE\_Blue*  
*CODE\_LINE\_Green*  
*CODE\_LINE\_Red*  
*CODE\_LINE\_Yellow*
- 63 **Yoichiro Kawaguchi**  
*Gemotional Bumpy Screen*
- 64 **Davida Kidd**  
*God Save us From Intoxicating Glances*
- 65 **Hye Kyung Kim**  
*Meditation*
- 66 **Sachiko Kodama**  
*MorphoTower / Spiral Swirl*
- 67 **Viktor Koen**  
*Dark Peculiar Toy No.03*  
*Dark Peculiar Toy No.04*  
*Dark Peculiar Toy No.19*  
*Dark Peculiar Toy No.21*
- 68 **Øyvind Kolås**  
*Nå av da (Now by Then)*
- 69 **Mark Koven**  
*Female Gape #3*
- 70 **Dorothy Krause**  
*Margoa*  
*Village*
- 71 **Kumiko Kushiya**  
*Thermoesthesia*
- 72 **Shawn Lawson**  
*Ray Tracings of the In Between:*  
*Living Space*  
*Ray Tracings of the In Between:*  
*Tractor Space*
- 73 **Barbara Layne**  
*Untitled Wall Hanging*
- 74 **Jae Min Lee**  
*Water Lights*
- 75 **Patrick Lichty**  
*Pixelboxes*
- 76 **Jeff Lieberman**  
*Slink*
- 77 **Andy Lomas**  
*Aggregation 22*
- 78 **Santiago Lombeyda**  
*Emergence: Order*
- 79 **Dan Lu**  
*Transition I*  
*Transition III*
- 80 **Michael Takeo Magruder**  
*Data\_Cosm*
- 81 **Jessica Maloney**  
*Exponential Growth*
- 82 **Dennis H. Miller**  
*Introspection*
- 83 **Mark Millstein**  
*Kite Form: Laminate*  
*Kite Form: Chrome Bowl*
- 84 **Marte Newcombe**  
*Soothsayers*
- 85 **Masashi Nishimura**  
*Thorn*  
*Evolution*
- 86 **Jee Hyun Oh**  
*GORI.Node Garden - Gardening Two*
- 87 **Fernando Orellana**  
*8520 S.W. 27th pl. v.2*
- 88 **Ricard Marxer Piñón**  
*Caligraft*
- 89 **Cynthia Beth Rubin**  
*Sand and Grasses1*
- 90 **Mark Scheeff**  
*Want #1 (continuous)*
- 91 **Ansen Seale**  
*Unfolding no. 14*
- 92 **Nathan Selikoff**  
*A Society of Stickpeople (captured, #31)*
- 93 **Carlo Séquin**  
*Hilbert Cube*
- 94 **Benedict Sheehan**  
*Magic Mirror*
- 95 **Vladimir Sierra**  
*Still Life #2*
- 96 **Zack Booth Simpson**  
*Moderation*
- 97 **John Slepian**  
*little\_one*
- 98 **Saritdikhun Somasa**  
*Driven05*  
*Driven 06*  
*Driven 07*  
*Driven 08*
- 99 **Mark Stock**  
*Open House*
- 100 **Thomas Suter**  
*Imaginary Flight over Okinawa*
- 101 **Masakazu Takano**  
*E-scape*
- 102 **Daphna Talithman, Orna Portugaly, Sharon Younger**  
*Heartbeats*
- 103 **Chao-Ming James Teng**  
*Your Memory, Connected. - Shall I Compare Thee to a Summer's Day*
- 104 **Anna Ursyn**  
*Rondo*
- 105 **Roman Verostko**  
*The Rocktown Scrolls, Black Elk Speaks*
- 106 **Diane Vetere**  
*do you see what i see 15*
- 107 **Jody Zellen**  
*Talking Walls*
- 108 **Orit Zuckerman**  
*Spotlight*



## Electronically Mediated Performances

- 110 Addictive TV**  
*The Eye of the Pilot*
- 111 Julie Andreyev**  
*VJ Fleet [Redux]*
- 112 Mark Ballora**  
*Singularity*
- 113 Yoichiro Kawaguchi**  
*Gemon Dance*
- 114 J.U. Lensing (THEATER DER KLÄNGE)**  
*HOEReographien*
- 115 Benoit Maubrey**  
*Audio Ballerinas*
- 116 Jun Oh and Min Jeong Kang**  
*Abracadabra*
- 117 Palindrome**  
*Perceivable Bodies*
- 118 Joe Reinsel**  
*Collapse:Focus*
- 119 Daniel Sauter**  
*Light Attack*
- 120 Hyojung Seo and Seunghye Kim**  
*spatial oscillator*
- 121 Paul Sermon, Steve Dixon, Mathias Fuchs, Andrea Zapp**  
*Unheimlich*
- 122 Hoyun Son**  
*Unspoken\_Series*
- 123 Benjamin Vigoda**  
*MANDALA*
- 124 Ge Wang and Perry R. Cook**  
*On-the-fly Counterpoint*
- 125 Gil Weinberg**  
*Jam'aa for Haile*

## Art Animations

- 127 Bret Battey**  
*Autarkeia Aggregatum*
- 128 Stéphane Berla**  
*Café Bouillu*
- 129 Lucy Blackwell**  
*Alive*
- 130 Joris Clerté and Philippe Massonnet**  
*À tort ou à raison*
- 131 Jean Detheux**  
*Rupture*
- 132 Patrick Doan**  
*TRANSREC*
- 133 Chris Hinton**  
*cNOTE*
- 134 Teppei Kuroyanagi**  
*C++*
- 135 Luis Nieto**  
*Oreille remplie de plumes*
- 136 Grégoire Pierre**  
*Akkad*
- 137 David Schwan**  
*Time Away*
- 138 sin sin**  
*Inside the Dishwasher*
- 139 Florian Witzel, Magid Hoff, Stephan Betz**  
*Fall of Antioch*
- 140 Sil van der Woerd**  
*Swim*

## 141 Charles A. Csuri Retrospective

### Art Panels

- 147 Locative Media: Urban Landscapes and Pervasive Technology Within Art**
- 147 Beyond Brush and Easel: The Computer Art of Charles A. Csuri from 1963 to present**
- 148 Generative and Genetic Art**
- 148 New Interactions: Communities and Information**

### Theoretical Art Papers

- 150 Dan Baldwin**  
**Michael S. Daubs**  
**John B. Ludwick**  
Flashimation: The Context and Culture of Web Animation
- 154 Paul Hertz**  
Drunk on Technology, Waiting for the Hangover
- 156 Tomoe Moriyama**  
Meta-Visual/Media/Space-Algorithmic  
"Intersection," the new aspect of media art exhibition
- 160 Lizzie Muller**  
**Ernest Edmonds**  
Living Laboratories: Making and Curating Interactive Art
- 164 Andrew Richardson**  
New Media, New Craft?
- 167 Joseph Tekippe**  
Marking Space: On Spatial Representation in Contemporary Visual Culture
- 171 James Faure Walker**  
Painting in a Digital World: I Told You So



# The SIGGRAPH Art Gallery 2006 Team

## **SIGGRAPH 2006**

### **Art Gallery Chair**

**Bonnie Mitchell**

*Bowling Green State University*

### **Art Gallery Administrative Assistant**

**Anne Behrnes**

*Independent Artist*

## **Committee**

### **Paul Brown**

*Independent Artist and Writer*

*SIGGRAPH 2006 Art Papers Chair*

### **Tracy Colby**

*Otis College of Art and Design*

*Web Art*

### **Madge Gleeson**

*Western Washington University*

*Logistics and Space Coordinator*

### **Sue Gollifer**

*University of Brighton*

*2D Artwork Coordinator*

### **Rob Grossman**

*Walt Disney Parks and Resorts -*

*Information Technology*

*Installations and Fusion Arts*

### **George Fifield**

*Boston Cyber Arts, Inc.*

*and DeCordova Museum*

*Boston Outreach*

### **Heather Elliott-Famularo**

*Bowling Green State University*

*Performance Coordinator*

### **Karla Loring**

*Museum of Contemporary Art, Chicago*

*Presentation Coordinator*

## **Artworks Jury**

### **Tom Craven**

*SIGGRAPH 2006 Emerging Technologies Chair*

### **Shawn Decker**

*School of the Art Institute of Chicago*

### **Jorn Ebner**

*Independent Artist*

### **Paul Hertz**

*Northwestern University*

### **Kenneth Huff**

*Independent Artist*

### **Andrea Polli**

*Hunter College*

### **Karla Loring**

*Museum of Contemporary Art, Chicago*

### **Philip Sanders**

*The College of New Jersey*

### **Vibeke Sorensen**

*Arizona State University*

### **LiQin Tan**

*Rutgers University*

### **Jana Whittington**

*Purdue University, Calumet*

## **Theoretical Papers Reviewers**

### **Bill Bigge**

*University of Sussex*

### **Tim Blackwell**

*Goldsmiths College, University of London*

### **Paul Brown**

*SIGGRAPH 2006 Art Papers Chair*

### **Donna Cox**

*National Center for Supercomputing Applications*

### **Margaret Dolinsky**

*Indiana University*

### **Alan Dorin**

*Monash University*

### **Dena Eber**

*Bowling Green State University*

### **Charlie Gere**

*Lancaster University*

### **Sue Gollifer**

*University of Brighton*

### **Simone Gristwood**

*Lancaster University*

### **Phil Husbands**

*University of Sussex*

### **Troy Innocent**

*Monash University*

### **Janis Jefferies**

*Goldsmiths College, University of London*

### **Nick Lambert**

*Birkbeck College, University of London*

### **Patrick Lichty**

*Bowling Green State University*

### **Tony Longson**

*California State University, Los Angeles*

### **Catherine Mason**

*Birkbeck College, University of London*

### **Jon McCormack**

*Monash University*

### **Christiane Paul**

*Whitney Museum of American Art*

### **Michael Punt**

*University of Plymouth*

### **Alan Sutcliffe**

*Computer Arts Society*

### **Bruce Wands**

*School of Visual Arts*

### **Mitchell Whitelaw**

*University of Canberra*

## **Art Animations Jury**

### **Larry Cuba**

*IotaCenter*

### **Thomas Haegele**

*Filmakademie Baden-Württemberg*

### **Elainie Lillios**

*Bowling Green State University*

### **Susan Weisshaar**

*Bowling Green State University*

## Beyond Boundaries Exhibition Team

### Janice M. Glowski

*The Ohio State University  
Exhibition Curator*

### Maria Palazzi

*The Ohio State University  
Donations, Liason and Essay Author*

### Charles A. Csuri

*Contributing Artist  
The Ohio State University*

### Keith Kelley

*The Ohio State University  
Video Documentation*

### Nancy Marzella

*The Ohio State University  
University Development*

### Eva Dujardin Dale

*The Ohio State University  
Catalogue Design*

### Wayne Carlson

*The Ohio State University  
Essay Author*

### Matthew Lewis

*The Ohio State University  
Essay Author*

### Thomas Linehan

*University of Texas  
Essay Author*

### Karla Loring

*Museum of Contemporary Art, Chicago  
Essay Author*

### Margit Rosen

*KHM | Academy for Media Arts  
Essay Author*

### Ying Chua

*The Ohio State University  
Entry Author*

### Su-hsing Lin

*Shu-Te University  
Entry Author*

### Arianna Maki

*The Ohio State University  
Entry Author*

### Zhou Yan

*Kenyon College  
Entry Author*

### Anu Vedagiri

*University of North Carolina at Greensboro  
Entry Author*

### Elizabeth Nielson

*The Ohio State University  
Graduate Assistant*

### Glen Shere

*The Ohio State University  
Systems Support*

### Elaine Smith

*The Ohio State University  
Administrative Assistant*

### Aline Davis

*The Ohio State University  
Information Assistant*

### Donors:

#### Gabe and Sandy Campbell

#### DPI, San Francisco

#### DreamWorks Animation

#### Jeffrey Katzenberg

#### FastFrame, Columbus, Ohio

#### Pixar Animation Studios

## Artworks Reviewers

### Walter Behrnes

*DNA Productions*

### Brit Bunkley

*Quay School of the Arts*

### Sheriann Ki Sun Burnham

*Independent Artist*

### David Burns

*California Institute of the Arts*

### Tracy Colby

*Otis College of Art and Design*

### Greg Cornelius

*University of Texas, Austin*

### Jennifer Dowling

*Framingham State College*

### Heather Elliott-Famularo

*Bowling Green State University*

### John Finnegan

*Purdue College of Technology at New Albany*

### Greg Garvey

*Quinnipiac University*

### Sue Gollifer

*University of Brighton*

### Stephan Hillerbrand

*Bowling Green State University*

### Masa Inakage

*Keio University, The Media Studio, Inc.*

### Chris Johnson

*Northern Arizona University*

### Mona Kasra

*California State University, Northridge*

### Andruid Kerne

*Texas A&M University*

### Hye Kyung Kim

*Kyung Hee University*

### Midori Kitagawa

*University of Texas at Dallas*

### Patrick Lichty

*Bowling Green State University*

### Jeff Lieberman

*Massachusetts Institute of Technology*

### Elainie Lillios

*Bowling Green State University*

### Gregory Liltte

*Bowling Green State University*

### Peter Mackey

*Pratt Institute*

### Kim Nankivell

*Purdue University, Calumet*

### Naomi Ribner

*The Painterly Pixel*

### Cynthia Ruben

*C B Rubin Studio,  
Rhode Island School of Design*

### Laura Rusnak

*Bowling Green State University*

### Anne Spalter

*Brown University*

### Anna Ursyn

*University of Northern Colorado*

### Ruth West

*University of California, San Diego*

### Jana Whittington

*Purdue University Calumet*

**The Art Gallery and Emerging Technologies reception was supported by the City of Boston, Thomas M. Menino, Mayor.**



# SIGGRAPH 2006 Art Gallery: *Intersections*

*Two roads diverged in a wood, and I --  
I took the one less traveled by,  
And that has made all the difference.*  
Robert Frost (1874 - 1963), *The Road Not Taken*

Each work in the SIGGRAPH 2006 *Intersections* exhibition metaphorically represents a journey that the artist has undertaken. As the work developed, the artist traveled along a path, encountering intersections where new ideas, techniques, media, people, and obstacles converged. It was here, at these crossroads, that the piece began to take on form; the meaning and direction became defined. At each intersection, important decisions had to be made. The trail behind the artist led back to familiar territory, and the road ahead led to further exploration of existing knowledge. The intersecting paths offered challenges and exciting opportunities to explore new concepts, integrate new media, and experiment with unfamiliar processes. At each intersection, the artist needed to stop and assess the situation, sometimes giving way to others who moved ahead or in another direction.

Stopping in the middle of an intersection is often dangerous – collisions are inevitable. The convergence of ideas, goals, processes, technologies, and people from various disciplines can be shattering. Innovation and creative vision emerge only after numerous unsuccessful, yet knowledge-gaining encounters at intersections. Traveling an unknown path is also not without risk. It takes a courageous person with perseverance to dare to do things differently. Many people choose to take the easy, well-known path. The artists in the *Intersections* exhibition are those who dared to seek out intersections and new paths and venture off into unknown territory.

The artwork in the *Intersections* exhibition exemplifies the highest quality contemporary digital artwork from around the world. The SIGGRAPH 2006 artists have merged their interests in science, electronics, social sciences, humanities, and/or pop culture with their desire to express themselves through the production of art. Their works reflect the convergence of technical and artistic concerns where identities, politics, social issues, and technology are constantly being negotiated. In the SIGGRAPH community, where artists are researchers and technicians, and researchers and technicians transform into artists, the segregation of disciplines collapses. In this environment, digital art is not seen as an end in itself, but as a place where people from various fields can tangibly cross paths, allowing for new connections to be made.

This year's Art Gallery includes 2D, 3D, and 4D wall-hung work, electronic installation art, sculpture, art animations, sound installations, interactive monitor-based artwork, electronically mediated performance, theoretical papers, panels, artist and performer presentations, and an extensive retrospective exhibition of Charles A. Csuri's work. All of the works exhibited or performed use technology as an integral element. They all exemplify the creative intersection of concept, technical innovation, and artistic expression.

**Bonnie Mitchell**  
*SIGGRAPH 2006 Art Gallery Chair*  
*Bowling Green State University*





# Jury Artworks

The SIGGRAPH 2006 Art Gallery jury, administrative assistant, and art papers chair were each invited to exhibit a work of art in the gallery. Their works include: digital photography and painting, algorithmic art, interactive web art, installation art, performance, electronic audio installation, abstract animation, and conceptual community projects.

# Anne Behrnes

**Anne Behrnes**  
Independent Artist  
PO Box 1501  
Toledo, Ohio 43603 USA

abehrnes@gmail.com  
www.geocities.com/artificium5



*Contemplations on Inner Space (Detail)*  
15.36 inches X 48.44 inches  
Digital imaging and painting

## ARTIST STATEMENT

*Contemplations on Inner Space 4* explores the relationship between individuals and their physical and psychological environments. It looks at how psychological states of mind can create conflicts between what is tangibly present and what is emotionally seen. The idea of venturing into “personal reality” is immensely important when reflecting upon the suggestion that what we see is dictated by our perception, thereby becoming a reality in and of itself.

As we reflect upon the idea that place is directly related to psychological states of being, we begin to realize that what we perceive and what is “in actuality” around us may not be the same. Thus we begin to recognize that not everything we encounter is easily understood or arrived at, particularly if we are dealing with psychological presence. *Contemplations on Inner Space 4* is about that creation of psychological environments that mimic individuals’ states of mind. As such, there is a noticeable absence of a “physical” body within it. This space is not an environment that demands the presence of a figure; rather the “literal” figure is replaced by a “psychological” presence. In essence, we become conscious that we are peering into a land that is based purely upon an individual’s perception. We see their “world” through their “eyes.”

## TECHNICAL STATEMENT

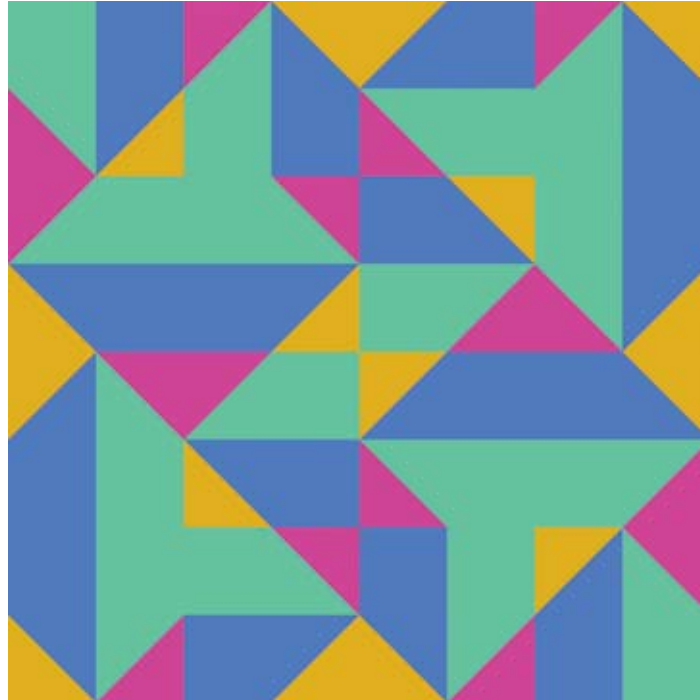
*Contemplations on Inner Space 4* was created with various techniques and programs. Starting with digital photographs, the artist used Photoshop to set the foundation of the image. She began by compositing multiple digital photographs together, then integrated additional digital photographs to incorporate texture, applied various “blend modes,” and adjusted their opacities and transparencies. In addition, she brought the image into Painter, where she used a variety of brushes to blend, draw, and paint.

The result is a “composite” image that has the look and feel of a “painting.”

# Paul Brown

**Paul Brown**  
Artist and Writer  
PO Box 413  
Cotton Tree, Queensland 4558 Australia

paul@paul-brown.com  
www.paul-brown.com/GALLERY/  
TIMEBASE/COLCORN/INDEX.HTM



*4<sup>16</sup>  
Realtime, onscreen art*

## ARTIST STATEMENT

*4<sup>16</sup>* continues a program of work that I began in the 1960s. Around that time, under the influence of the European Systems Art movement, I began to think of the artwork as a generative process (for example, a series of instructions) that manifested itself in some tangible form. In 1968, I discovered computers and programming, and since 1974 these have been my primary working methodologies.

Most of my time-based work over this period has used cellular automata to drive a permutative system based on tiling symmetry. These works often have vast internal spaces (*4<sup>16</sup>* is capable of generating 4,294,967,296 images), and the cellular automaton provides a mechanism for exploring this variety in a non-linear and non-repetitive way.

The work also explores aspects of human cognition and, in particular, the ability to perceive and then interpret patterns in both structured and random visual data.

## TECHNICAL STATEMENT

The image is composed of 16 tiles that can each be placed on one of four orientations, and the title of the work reflects this simplicity. In this implementation (and there are several; the work is essentially still in progress) the cellular automaton works on a system of “favourite” neighbours for which there is no perfect relationship.

The work was originally made using Macromedia Director, but more recently it was recreated using Processing by Casey Reas and Ben Fry. In this latter instantiation, it is a lot more flexible, and I am able to work through new ideas and variations more easily.

# Shawn Decker

## Shawn Decker

School of the Art Institute of Chicago  
112 South Michigan Avenue  
Chicago, Illinois 60603 USA

sdecker@artic.edu  
www.shawndecker.com



*Green*  
10 feet x 10 feet x 12 feet  
Audio installation

### ARTIST STATEMENT

In *Green*, I continue my exploration of the processes found in nature and in other large and complex systems, and the potential of computer programs to model or simulate such systems within time-based artworks. In my most recent interactive installations and performances, patterns of behavior are fixed and defined only by the algorithmic process specified in the computer program embedded within the micro-controller that is part of each work. These algorithmic processes are designed to simulate the operation of physical and natural systems. In particular, *Green* isolates the elements of rhythm and spatial orientation, using many small speakers as sound sources, with only the most basic of sounds (small clicks and pulses) to create spatial and rhythmic studies that are based on the natural soundscape found in meadows in midwestern North America.

### TECHNICAL STATEMENT

Like much of my recent sound-based installation work, *Green* makes use of mechanical and other “direct” sound-production techniques that may be controlled by a computer program. In the past, these techniques have included the use of small motors to strike metal objects, piano wires, etc. and are often kinetic in nature. In *Green*, I use small loudspeakers, not in the normal sense to reproduce sound waves, but rather as small kinetic machines, to which I send pulses (on/off voltages only) that “twitch” and “tap” the loudspeakers, treating them like simple mechanical noise-makers.

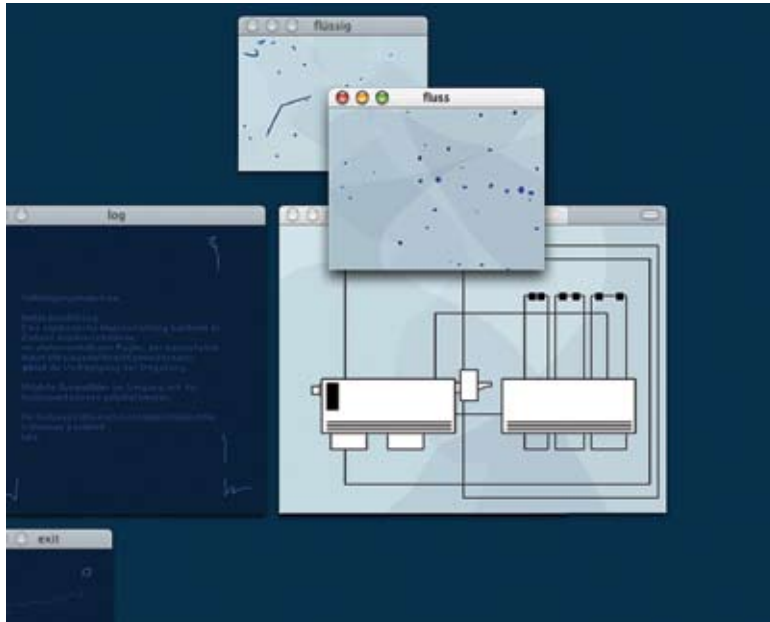
All of *Green*’s sounds are driven by algorithms coded into home-made and custom-programmed microcontrollers (single-chip computers). Each loudspeaker is powered by a microcontroller, and can make only simple and quiet sounds (by literally turning the speaker on and off only, so small clicks, buzzes, etc. are all that is possible). The piece gains volume and complexity through the multiplicity of speakers (32) and through their synchronization (provided by the algorithms within the microcontrollers).



# Jorn Ebner

**Jorn Ebner**  
Independent Artist  
138 St. Lawrence Square  
Newcastle upon Tyne, NE6 1RH  
United Kingdom  
j.ebner@britishlibrary.net  
www.leonardolog.org

Oliver Böhm, PHP programming



*Leonardo Log*  
Web art

## ARTIST STATEMENT

*Leonardo Log* is a browser-based application consisting of two components: a Hub and a Log. Upon start-up, visitors have to construct the application: first, the Exit window (which closes *Leonardo Log* at any time), then the Log, and finally a node within the Hub.

From the Hub, six animation sequences start, and they transmit text to the Log. This final “poem” can be sent as an email message from the Log and will consequently be available for further textual changes or simple archiving.

The texts refer to six existential situations. They describe the following imaginary objects, which could inspire stability or instability in fluid or static moments: Fluidity Simulator, Mourning Carton, Pleasure Fountain, Quarrel Staff, Spurt Connection, and Think Container. The animations contain abstract and figurative image sequences: associative drawings that occasionally move across several windows.

Visitors have to discover links; the navigation is hidden in drawing elements. Each animation has a different structure. Some elements have to be moved, some must be clicked on, some are simply looked at. Users can send the resulting log book via email and use it as a further reference point amidst existential confusion.

## TECHNICAL STATEMENT

*Leonardo Log* works with Javascript windows that visually communicate with each other. From the main image sequence, smaller windows open up with extensions to the sequence. The intention was to develop a distinct visual structure that would only be possible in a browser. Each image sequence is positioned in relation to the Javascript windows and in relation to the screen, so that the work is not located in the browser alone but in the monitor or screen of the viewer.

*Leonardo Log* was funded through an AHRB Research Fellowship. It is part of a series of works that began with *Leonardo Log* (Klanglandschaft), a sound work directed by Horst Konietzny that was performed and installed at iCamp Neues Theater, München, in 2002.

# Paul Hertz

## Paul Hertz

Northwestern University  
1800 Sherman Avenue, Suite 206  
Evanston, Illinois 60201 USA  
paul-hertz@northwestern.edu  
collaboratory.nunet.net/phertz/portfolio/

Dan Zellner, theatrical direction  
Leif Krinkle, Mage's assistant



*Ignotus the Mage*  
10 feet x 8 feet x 8 feet  
Still image from installation

## ARTIST STATEMENT

*Ignotus the Mage* combines and extends a series of earlier works in which samples of digitized faces and spoken names provide the raw material for an interactive installation. It brings together various processes that have long informed my work: induction of the audience into the creative process, pattern-making games, intermedia composition, remixing as a metaphor for memory, and collaborative interaction.

In *Ignotus the Mage*, a performance serves to gather the raw material for an interactive multimedia installation. The artist performs as the Mage, a dysfunctional fortuneteller who sits at a table and interprets the patterns that participants create with his homemade binary punch cards. In exchange for his services, he records the face and spoken name of each participant. The names, faces and patterns inhabit the interactive installation, a table with embedded sensors that control projected video and spatialized sound.

A topological transformation of the Mage's patterns yields graphs that can be interpreted as generative structures for musical or multimedia events. Here they control the selection and remixing of vowel, consonant, or syllabic sounds from the spoken names and the collaging of different faces. The captured material from each successive installation becomes a jumbled but evocative "collective portrait" of the group that participated. The faces and voices fragment and recombine, yet we may still detect individual qualities and the traces of a specific time and place.

Left alone, the installation quietly sifts through its material. When visitors arrive, it wakes up and triggers rhythmically collaged sounds and images in response to their interaction. With a little patience, they can learn to make whole faces and names emerge from the fragmentary display: rising from the waters of memory, for a fleeting moment of union, a face joins a name.

## TECHNICAL STATEMENT

The homemade binary punch cards with patterns on their faces implement an algorithm for generating Latin squares of different geometric tiles. The holes and slots in the cards are used to sort them. The artist developed the cards in the late 1970s and later created several computer programs to mimic them. The cards allowed him to let other people compose his paintings for him. Out of gratitude, he offered to interpret the cards for them.

The interactive multimedia installation uses a generative system for controlling audio and visual events. The system uses directed graphs that result from a topological transform of the patterns generated by the punch cards. The application that drives the installation traces the graphs with multiple "agents" to derive multimedia events. Participants can control the choices that agents make at different vertices of the graph. The recorded voices used as audio material are analyzed and controlled with digital signal-processing software. The images are fragmented and composited using alpha channels derived from rule-based colorings of the patterns.

## Kenneth A. Huff

**Kenneth A. Huff**  
Independent Artist  
2812 North Central Avenue  
Tampa, Florida 33602 USA

ken@kennethahuff.com  
www.kennethahuff.com



*Contemplations: 2005.2*  
Digital animation

### ARTIST STATEMENT

Today's frenetic, rapid-cut popular media serve as foil to the intent of *Contemplations*, a series of animated works exploring patterns and forms inspired by the intricate complexities of nature. This work from the series shows slowly evolving solid and transparent forms. With no set beginning or end, the work allows the viewer to become lost in the complex, organically shifting details and provides an engaging, calming point of contemplation.

### TECHNICAL STATEMENT

The work was animated in Alias Maya Unlimited and rendered with mental images mental ray. Post-rendering modifications were completed in Adobe After Effects. The final piece is a 40-minute continuous loop rendered at 1,920 x 1,080 pixels, 30 frames per second.

# Andrea Polli

**Andrea Polli**  
Hunter College, Film and Media  
695 Park Avenue  
New York, New York 10021 USA  
apolli@hunter.cuny.edu  
www.andreapolli.com

Morgan Barnard, video direction, editing,  
and animation  
Markus Maurette, computer models



*Queensbridge Wind Power*  
DVD

## ARTIST STATEMENT

The *Queensbridge Wind Power* project presents a vision of a future when meeting energy production needs can actually enhance the beauty of a city. It investigates how clean, renewable wind power might be integrated into the landmark architecture of the Queensboro Bridge, New York City. The project is designed to engage the community in a dialogue about the potential of wind and other alternative energies in an urban setting.

## TECHNICAL STATEMENT

Andrea Polli conceived of this piece as part of New York 2050, a project to actively involve the people of metropolitan New York in a dialogue about the future and to develop the resulting visions into programs for action to guide short-term decision-making (see [www.ny2050.org](http://www.ny2050.org)). During that large-scale project, she worked closely with climate scientist Cynthia Rosenzweig and a team of scientists at the NASA Goddard Institute for Space Studies and Columbia University's Climate Impacts Group and learned of the wide-ranging effects climate change will have on the New York region. The *Queensbridge Wind Power* project is her response.



# Philip Sanders

**Philip Sanders**  
The College of New Jersey  
563 Van Duzer Street  
Staten Island, New York 10304 USA  
ps@thing.net

Rob LaPlaca  
Nick Sarnelli



*Studio*  
Interactive networked digital media

## ARTIST STATEMENT

Interactive media are the most recent in a long series of technologies affecting culture and art. Artistic expression, communication, and technology have mutually influenced each other's development since the rise of modern human culture about 30,000 years ago. From prehistoric times until now, artists have used their workshops to develop connections between the production of art, current technology, and cultural communication.

*Studio* is a networked interactive piece that combines digital media including QuickTime VR panoramas, digital video, audio, and stills. It is a meditation on relationships among art, culture, and technology that lets viewers interactively explore associations connected with a studio. The piece incorporates a wide range of technology, from painting, construction, and photography through networked virtual spaces. *Studio* contains references to different types of artistic and technical work, such as rock art, various eras of painting, Dada, Surrealism, and Cubism, as well as contemporary workflows.

Viewers can navigate QuickTime media from the main system or remote networked computers. These interactions are displayed simultaneously on all logged-in systems. Viewers can pan 360

degrees around a panoramic view, look up and down, and zoom in or out, and follow links to other digital media. The software negotiates differing levels of control between viewers at the primary computer and viewers who are connected across the network.

## TECHNICAL STATEMENT

*Studio* was produced using digital sketching, painting, 2D and 3D imaging, image editing/processing, photography, and video. Authoring consisted of construction of interactive QuickTime media including QTVR panoramas, creation of an interactive user interface, and implementation of network and server technology.

For networked interactions, Flash is embedded in an HTML file and communicates via XML packets through a server. This triggers JavaScript functions that talk to QuickTime media on each page, resulting in communication among and simultaneous effects on all systems.

# LiQin Tan

## CONTACT

**LiQin Tan**  
Rutgers University  
314 Linden Street  
Fine Arts Department  
Camden, New Jersey 8102 USA  
ltan@camden.rutgers.edu  
www.tanimation.net

## RESEARCH ASSISTANTS

Christopher Santoianni  
Justin Burton  
Shaun Jennings



*LavaBody + 6*  
16 inches x 88 inches x 77 inches  
Digital marble prints with 3D animation and convex mirror

## ARTIST STATEMENT

In my ongoing Digital-Nature series, I bring unity to the dichotomous by synthesizing digital technology and aesthetics with the fundamental primitive beauty of natural burl and the human body.

This installation is a virtual lava body formed by simulated flowing lava, which comes to life in my 3D animations on LCD TV screens; a convex mirror reflects the lava motion sequence. While the lava body animation is a digital simulation, the mirror reflection is "real." The tension and interaction between these two virtual re-creations enable us to enter a new world of encoded materialization.

## TECHNICAL STATEMENT

3D animation and modeling images are printed on a rock surface using Vutek PressVu UV 200/600 printers, these printers are often used for digital inkjet printing on exotic materials. Each rock print is the result of extensive research, in terms of color consistency and material requirements.

Six display monitors are integrated with Matrox multi-display technologies. On-screen information can be moved from one display to another, as the six displays in the system show one large lava animation clip.

Correct virtual reflection from a mirror depends on the mirror's convexity and the shape of the animation. The former determines the reflection size of the lava animation from the LCD TVs, and the latter changes the image over. Softimage/XSI version 5.01 was the main software used for modeling and animation.

# Jana Whittington

**Jana Whittington**  
Purdue University Calumet  
2200 169th Street  
Anderson Building  
Hammond, Indiana 46323 USA

whitting@calumet.purdue.edu



*Exertions of Exodus*  
Time-based image

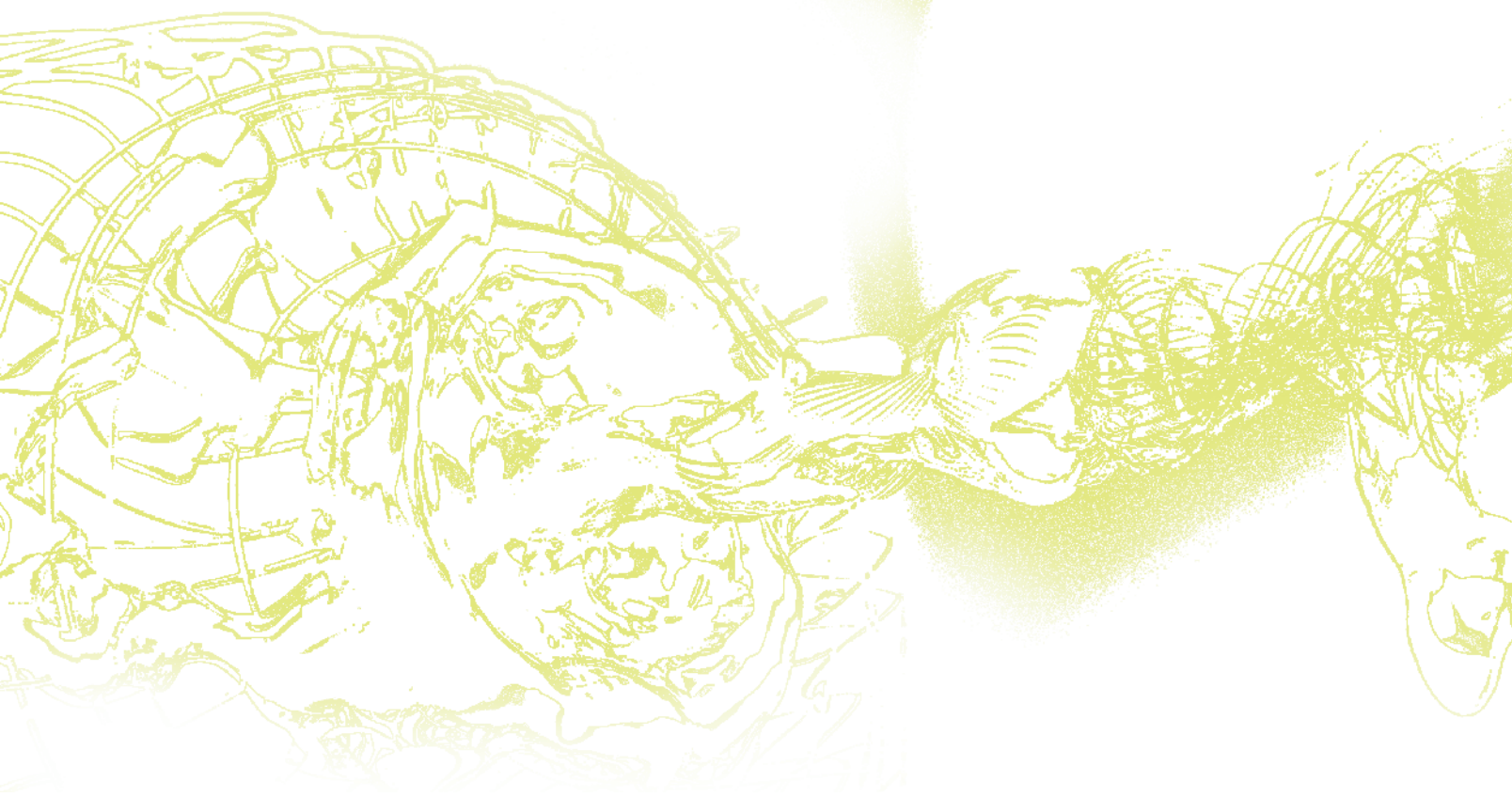
## ARTIST STATEMENT

Controversial new art forms have always been closely inspected, including their underlying environmental and cultural influences, which are revealed in artwork over time. This work is a reflective time-based piece that visually tells a story about the artist's aesthetic journeys, including the journey from traditional to digital. A 20-year period is dilated by juxtaposing, segmenting, and interweaving passages of artistic works and influences.

The artist is intrigued by stories told by other new-media artists, and their journeys are reflected in the motion of the piece. The artist considers the use of computers and other new forms of technology that deal with time an exciting medium in which to bring life to aesthetic expressions.

## TECHNICAL STATEMENT

A wide range of artistic processes was employed to form this time-based piece. The artist used a body of original artwork, both traditional and digital. The traditional art was digitized through the use of digital photography, digital video, and high-to-low-resolution scans. The digital original art pieces were created using digital video, digital photography, animations, and motion graphics. Software used: Macromedia Flash, Adobe Photoshop, Adobe Illustrator, Motion, Final-Cut, Adobe AfterEffects, Soundtrack Pro, and 3ds Max. Windows and Mac platforms were used, and the final piece was assembled in Final-Cut Pro and DVD Pro.



# Artworks

The works in the gallery exemplify the creative intersection of concept and technique. The artwork in the *Intersections* exhibition includes 2D, 3D and 4D wall-hung work, electronic installation art, sculpture, sound installations, interactive monitor-based artwork, and hybrid works that bridge the gap between innovation and artistic expression. Works in the gallery were created by independent artists as well as academics, researchers, filmmakers, programmers, industry specialists, and others interested in expressing ideas through the use of computer graphics and interactive techniques.



# Ergun Akleman

**Ergun Akleman**  
Texas A&M University  
3739 Chantal Circle  
College Station, Texas 77845 USA  
ergun@viz.tamu.edu  
[www-viz.tamu.edu/faculty/ergun/research/topology/index.html](http://www-viz.tamu.edu/faculty/ergun/research/topology/index.html)

Ozan Ozener



*Symmetric Sculptures*  
10 inches x 20 inches x 20 inches  
Sculpture

## ARTIST STATEMENT

This new sculptural family was created with interactive topological modeling. With this procedure, tested in a computer-aided sculpting course, students can rapidly create a wide variety of shapes. Although the shapes are completely different, they indistinguishably belong to the same family. The shapes are manifold surfaces, so they can be easily reproduced using 3D printing. Because of their strong symmetry, they can be constructed using a few building blocks. Current investigations are exploring physical construction of large versions (more than three meters square) of these complicated shapes using low-cost materials such as concrete.

## TECHNICAL STATEMENT

These sculptures are created using TopMod, a topological modeling system developed by Ergun Akleman, Jianer Chen, and Vinod Srinivasan with the contributions of more than 10 graduate students.



# Christopher Bauder

**Christopher Bauder**  
w-h-i-t-e-v-o-i-d  
Marienburgerstraße 21  
10405 Berlin, Germany  
info@electricmoons.com  
www.electricmoons.com

Till Beckmann, software  
Holger Pecht, logic boards  
Miriam Schulze, sound



*electric moOns*  
12 feet x 25 feet x 25 feet  
Interactive balloon ballet, 3D display installation, physical display

## ARTIST STATEMENT

A hundred white balloons in a totally dark room are floating in space like the atoms of a molecule. They are moving up and down slowly and gracefully. The balloons appear as floating spheres, forming three-dimensional pixels arranged in a 10x10 grid. The pixels combine together to make a larger form. The weightless objects are representing three-dimensional digital data sets in a dynamic display sculpture composed of physical particles.

The interactive balloon ballet is built out of synchronized movement and lighting. A screen-based interface telecommands the balloon ballet in sync to a chosen musical piece. The user can control the movement and lighting of each balloon independently. Morphing 3D shapes and patterns are blended with an overlay of supporting or counteracting light animations. The *electric moOns* installation is probably the world's largest physical 3D display.

## TECHNICAL STATEMENT

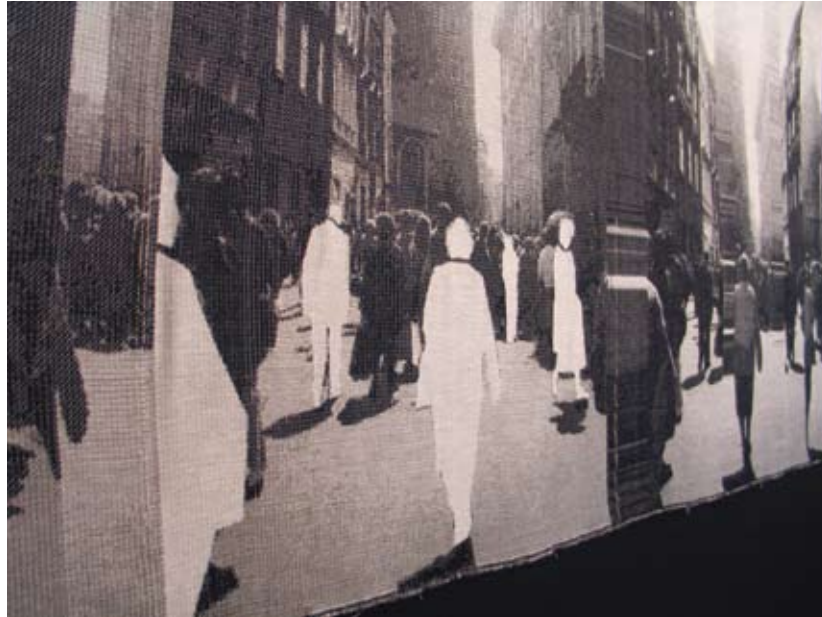
The *electric moOns* installation consists of 100 helium-filled balloons. Each balloon is attached to a thin cable. The length of the cable, and thus the floating height of every balloon, can be adjusted continuously with a cable winch from 0-5 meters. Additionally, each balloon is lit from inside with dimmable super-bright LEDs. The 100 balloon voxels (volume pixels) are arranged in a 10x10 square (covering 8x8 meters).

The balloon ballet is controlled by custom software with a graphical user interface running on a PC system. The PC communicates via midi signals to a midi-to-analog interface. The analog outputs of the interface are connected to a custom-made control board on each balloon's winch. The winch reacts to the incoming signal and adjusts the balloons floating height and the brightness of the dimmable LED inside the balloon. The user can choose, manipulate, and animate bitmaps and movies from the graphical user interface and synchronize them to a chosen musical piece via a beat counter. This allows for almost infinite combinations of shape, movement and light animations. The balloon ballet can be presented as a live performance piece or exhibited as a stand-alone interactive sculpture.

# Joanna Berzowska

**Joanna Berzowska**  
 XS Labs  
 3966 Parc Lafontaine  
 Montréal, Québec H2L-3M7 Canada  
 joey@berzowska.com  
 www.xslabs.net/

Christine Keller



*Krakow: a woven story of memory and erasure*  
 4 feet x 7 feet  
 Electronic animated textile

## ARTIST STATEMENT

Active materials (physical materials that have the ability to change over time and be controlled electronically) introduce many exciting opportunities for art and design, but also present many new challenges. These challenges are not only conceptual (how to imagine animated, interactive artifacts that have unexpected reactions or behaviors), but also political, ethical, social, environmental, and cultural.

At the same time, with contemporary advances in potential memory capacity, we need to ask what are the design and creative capacities of memory rich materials and forms. What models of memory and mind are used in designing technologies that remember? How does our current generation of electronic textile and wearable computing technologies allow us to build memories? And, most importantly, how do we include the need, capacity, and desire to forget?

At XS Labs, we develop electronic textiles that are extra soft and react in unusual ways to our bodies and our environments. We are particularly interested in the development of non-emissive, textile-based display technologies. We develop textile substrates that integrate conductive yarns, control electronics, and various active materials such as thermochromic inks or the shape-memory alloy Nitinol in order to build non-emissive, multi-pixel, fully addressable textile displays. These displays are created using traditional textile manufacturing techniques: spinning conductive yarns, weaving, embroidering, sewing, and printing with inks.

## TECHNICAL STATEMENT

*Krakow, a woven story of memory and erasure* deploys a simple technology for non-emissive, color-change textiles. It functions as a woven animated display, constructed with conductive yarns and thermochromic inks together with custom electronics components. Some of the figures in the weaving are overprinted with inks that change from black and pink to transparent and back again. Like our memories of them, the people in the weaving disappear over time.

Thermochromic inks have the ability to change color in response to a change in temperature, without emitting light. This is ideal for constructing visually animated textile-based substrates, since non-emissive surfaces are conceptually closer to the tradition of weaving and textile printing.

Conductive yarns are woven together with insulating yarns to construct a fabric substrate that is overprinted with areas of thermochromic ink. Control electronics send power to different areas of the electronic textile to generate resistive heat. This allows for the creation of dynamic designs on the textile. Visual properties are determined by the pattern and physical configuration of the conductive yarns and thermochromic inks integrated into its surface.

*Krakow, a woven story of memory and erasure* is woven on a Jacquard loom, which can create complicated weave structures, including double and triple weaves. On a Jacquard loom, complex and irregular patterns can be produced, because each warp yarn is individually addressable.

# Alain Bittler

**Alain Bittler**  
Independent Artist  
26 rue de la Breme  
67000 Strasbourg-La Robertsau, France

bittleralain@yahoo.com  
www.alainbittler.com



*Brush Traces I*  
52 inches x 39 inches  
3D-generated image printed on velvet paper

## ARTIST STATEMENT

Computers let us imagine new ways to draw pictures or to make paintings. With computers, we can create our own brushes (with virtual meshes), and we can use them to create new impressions. In European design and graphic arts, we start the thinking process by making a pencil sketch, but now I can do things that I am unable to do with a pencil.

I was very impressed by the giant calligraphies at the National Museum in Tokyo, Japan and the Japanese calligraphy demonstration at CEEJA in Colmar, France. These works conveyed a lot of mystery and secrets. That's why I started the *Brush Traces* series in July 2005. It is a good transition between the Movement series (2003-2005) and the digital-calligraphy series I plan to work on next.

In *Brush Traces*, I revisit Asian brush painting and add another dimension, a visual-musical (or mathematical) partition-vibration trace that refers to music, oscillation, and traces of time or some sort of language. Is time becoming solid? Or is music becoming solid?

In my composition, I juxtapose light against shadow, movement against stasis, order against disorder, visual music against visual imagery, waves against flatness, and physics against quantum physics in a virtual time-space generated by computer. I created this work with an out-of-time aesthetic, between the two infinities, which places this work conceptually between European and Asian art.

Piet Mondrian was the first artist who discovered the two infinities. He expressed them with horizontal and vertical lines after researching the infinite territory between the shape and the non-shape. Roman Verostko is the first artist who used technology to make Asian brush painting. The *Brush Traces* series is a true fusion between those two visions of art.

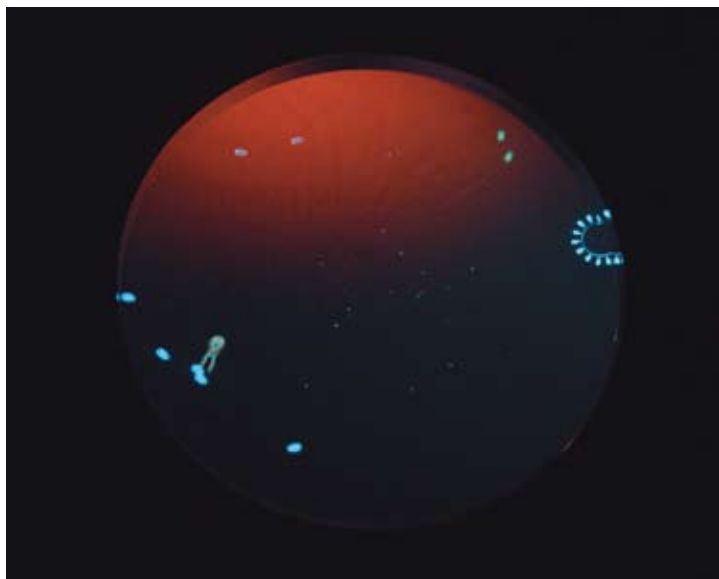
## TECHNICAL STATEMENT

I create virtual meshes. I use those meshes like a brush and capture their movement with a tempo (or iteration) to produce traces. If the tempo is reduced to zero, intervals become invisible, and the image looks like a solid mesh. Otherwise, the intervals show sequences of time with regular speed or with some acceleration. All these factors are the same for both music composition and calligraphy.

Vicky Isley & Paul Smith  
 boredomresearch  
 80 Langdown Road  
 Hythe Southampton SO45 6EQ  
 United Kingdom

siggraph@boredomresearch.net  
 www.boredomresearch.net/biome

# boredomresearch



*biomes*  
 22 inches x 22 inches x 6 inches  
 Computational time-based image

## ARTIST STATEMENT

Vicky Isley and Paul Smith, collaborating as boredomresearch, build observable phenomena of intrigue and beauty, using techniques similar to those used by scientists to understand the natural world. In their systems, the sensation or illusion of life is their key interest rather than a desire to recreate life itself.

The *biome* works were developed after extensive research into computational models used in the study of artificial life. The artists' desire is to implement these techniques in a way that explores properties present in natural systems. They are interested in the diversity of form and pattern that appear in natural systems, and how a similar diversity can be produced using simple rules.

In the *biome* works, the bodies that inhabit their space appear as both machine and organism. boredomresearch often think of these artifacts as biological timepieces built with the production values of early watchmakers whose skills were translated to the creation of automata (mechanical life like forms driven by cogs). Here these intricacies of engineering are translated to the computer with the tiny cogs and chains replaced by computational mechanisms.

Since 2003, boredomresearch have been developing the relationship between their computational work and the viewer. The *biomes* are presented in the form of an object where the screen is visible through a circular lens that has a foreshortening effect, bringing the image surface level with the surrounding frame to subtly but profoundly change the viewing experience. In this form, the work is experienced intimately because only a few people can view a *biome* at one time.

## TECHNICAL STATEMENT

A *biome's* small circular window looks in on a vast sealed universe in which you see a number of intricately patterned bodies going about their business. Observing at length, you see an almost unlimited diversity of form, colour, and pattern, as these creature-like machines enter and leave the viewable area.

The *biome* machines generate their own markings using a pattern generator based on simple rules. Each *biome* is running the same software, but since the machines are generative, each system evolves differently. The patterns have been slowly increasing in complexity since they were launched in April 2005. This visual complexity is augmented by a component of the program that acts like a virus, seeking out machines lacking complexity and forcing them to reload their pattern generator.

Each machine has a library of vocal calls that accompany certain behaviours or interactions with other machines. These are only heard when the machine is near the viewable area. One machine in particular sometimes makes a dramatic appearance, flashing a bright light on a protrusion similar to that of a lantern fish. The flashes are accompanied by the sound of an explosive electrical discharge, and many other machines react defensively.

# boredomresearch



*randomSeed 001*  
 22 inches x 22 inches  
 Computational image

## ARTIST STATEMENT

The *randomSeed* works were developed after extensive research into computational models used in the study of artificial life. In part, this was undertaken during boredomresearch's residency at Artsway in the New Forest, United Kingdom (2002–2003). During this time, the artists deconstructed the process of building computational program-dependent artworks. Reversing the normal trend of translating physical properties into electronic form, boredomresearch de-digitalised their artistic practice, converting programmed works into a paper-based form. This led to an interest in computational models that predated electronic computing. In particular, the artists were fascinated by cellular automata. Despite the fact that it is now predominantly being created on computers, this technique for modelling artificial life was originally executed on graph paper and allegedly conceived using broken plates on the tiled floor of its inventor's (John Conway) kitchen. This drew the artists' attention to the high level of visual complexity that can be achieved from the repeated execution of very simple rules, and they developed an extensive range of cellular automata-based rules and systems before finally arriving at the ones implemented in *randomSeed*.

It is all too easy to simply think of space as the stuff we move around in and time as duration. For boredomresearch, the interesting quality of cellular automata is the incredibly intricate patterns revealed as a product of their space-time continuum. Viewed as a static image, time is no longer the perception of change but something more beautiful. In *randomSeed*, the image represents a record of the machine's movements and can also be thought of in this way.

boredomresearch are interested in how they can't predict the images created as the machines respond to their environment. The main attraction in building this work is observing the different outcomes of the innumerable permutations that are outside of the artists' aesthetic control.

## TECHNICAL STATEMENT

In *randomSeed*, tiny creature-like objects can be observed busily moving about in encapsulated worlds, like "workers" in an ant's nest. boredomresearch have created simple movement instructions for their "workers" (which they refer to as machine heads). They march out from the centre of their world, leaving movement traces by changing pixel colour.

The audience finds itself absorbed by the intricate and beautiful images the machine heads make by following simple rules. Eventually, the machine heads fill their world with different coloured pixels and can no longer move in straight lines. Their behaviour changes as their environment becomes increasingly complex. Finally, their world takes on a textured appearance similar to granite.

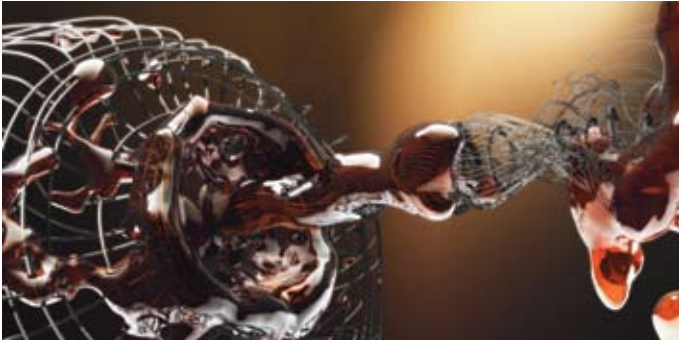
By slightly varying the machine-head instructions within different systems, *randomSeeds* can create a huge range of diverse images. In one *randomSeed* system, machine heads leaving the circle return to the opposite side; in the other system, they are placed back in the centre. After running both these systems for a couple of months, you can appreciate the subtle differences in how the images develop. But however many times a system is relaunched, the artists still find themselves surprised by the beauty and intricacy of the images.



**Tim Borgmann**  
Independent Artist  
Ravensberger Straße 20  
42117 Wuppertal, Germany

info@bt-3d.de  
art.bt-3d.de

# Tim Borgmann



*shape.69c*  
20 inches x 39 inches  
3D modeled image, inkjet print



*shape.53a#2*  
39 inches x 27 inches  
3D modeled image, inkjet print

## ARTIST STATEMENT

The *abstract.0104* series started with an idea to apply an abstract painting workflow into the world of 3D. One concept behind this work was to leave the usual method of creating shapes behind and change it to a more intuitive way. Instead of planning the shapes before starting the image, I derived my inspiration from what I saw during the creation of the work.

Often 3D programs are used as a construction tool to visualize an existing idea. In this series, I tried to use it as freely as a paintbrush, creating the shapes as an evolution of the work process. I see image creation as a dialog between the nascent image and myself. Sometimes the image influences my work by itself, leading me toward its own direction. Sometimes it's just me, pushing the image into the form I want.

I try to merge traditional and modern workflows. On the one side, I work as freely as possible by creating the objects and starting the image like a meditative free-abstract painting. One step in the modeling leads to the next. On the other side, I use the possibilities of the digital 3D media to change the appearance of the object through light, shaders, and colors to catch the actual mood I see in the basic shapes. Thanks to 3D, I can easily change the camera view, walk through the image and search for an interesting place and view angle to arrange the final image. So the whole work can be seen as a process that becomes more

and more concrete during the development of the final image.

Abstract art gives me the freedom to experiment and discover new workflows, to search for new borders and new image worlds. The final images are like a snapshot of the dialog between the image and myself.

## TECHNICAL STATEMENT

The *abstract.0104* series is completely done in 3D (mainly Realsoft 3D) with some post-processing in Photoshop.

During the work on the series, I developed different materials and shaders (for example, for the "wire" look) for maximum flexibility. All materials are more or less completely procedural and mostly independent in output resolutions, which allows close-up shots without having to worry about texture sizes.

The strings themselves are pure NURBS curves (no sweep of loft surfaces) where the diameter is controlled by a custom shader at render time. All fluid-like shapes are modeled with metaballs with different techniques, from free-hand modeling through different distributive functions. At a later stage of modeling, they were converted to SDS objects, which enabled more control to do fine tuning and add details.

The final rendering was done in several passes with resolutions from 4K to 10K to gain optimum control in post processing.

**Adam Brown**  
 University of Oklahoma  
 501 N.W. 14th Street  
 Oklahoma City, Oklahoma 73103 USA

awbrown@ou.edu  
[www.isisconceptuallaboratory.com](http://www.isisconceptuallaboratory.com)

# Adam Brown and Andrew Fagg



*Bion*  
 12 feet x 15 feet x 15 feet  
 Art installation, rapid-injection-molded plastic with custom electronics

## ARTIST STATEMENT

Art and computer science converge in the investigation of emergence and self-organization through the field of sensor networks. This is realized in *Bion*, an interactive installation that explores the relationship between humans and a simulated orgone-inspired experience. *Bion* makes reference to an individual element of primordial biological energy identified as an “orgone” by the scientist Wilhelm Reich.

Viewers witness a dynamic array of 1,000 mass-produced, three-dimensional glowing and chirping forms, collectively producing polyphonic sound and blue light emanating in cloud-like patterns from all parts of the room. Each bion, a small synthetic “life-form” fitted with custom electronics and sensors, has the ability to communicate with other bions and with humans who enter the space. An example of this communication occurs when one of the bions is alerted to the presence of a stranger; a bion quickly communicates this information to the group. One by one, in rapid succession, the bions signal other bions to the presence of a stranger and, in a wave-like pattern, become silent. Eventually, the bions become attracted to the visitor, and they express their interest with more intense glowing and increased polyphonic rhythms.

## TECHNICAL STATEMENT

Each bion was initially realized through a 3D computer-aided design model. This digitally produced file was then output to a CNC (computer-numerical-controlled) machine, where an aluminum mold was made, creating an infinitely reproducible object via the rapid injection molding process. Each of the 1,000 bions is outfitted with custom circuits and Atmel Mega8 microcontrollers that are suspended by fine-gage wire connected to panels attached to the ceiling.

Communication and visitor-proximity sensing is performed using a set of infrared transceivers (not unlike the technology used for television remote controls). Because this mode of communication is local, the system uses a broadcasting model for global communication. Here, messages that are received by individual sensor nodes are rebroadcast to the local neighbors. This process is repeated until the message propagates throughout the network. All sensor nodes are identical in their implementation. However, when a node comes in contact with a visitor to the installation, it asserts itself as the network’s “interface” to that visitor. As the interface, this node is responsible for originating the set of messages that are used by the network to produce the coordinated response to the visitor.

**Keith Brown**  
 Manchester Metropolitan University  
 MIRIAD School of Art  
 Grosvenor Building, Cavendish Street  
 Manchester M15 6BR United Kingdom

cyberform@ntlworld.com  
[www.artdes.mmu.ac.uk/profile/kbrown](http://www.artdes.mmu.ac.uk/profile/kbrown)

# Keith Brown



*Through*  
 10.75 inches x 8.75 inches x 5.75 inches  
 3ds Max model, rapid prototype, SLA, lost-wax bronze cast, burnished bronze

## ARTIST STATEMENT

The computer is a necessary and essential aspect of my working process and is indispensable to the conception, content, and quality of the sculpture.

The sculpture is conceived “directly” whilst interacting with generic primitives in the cyber environment. Deformations are applied to them, which affect the whole of the object and its constituent parts in such a way as to develop specific relationships between the interrelated elements. The new forms that are generated in the cyber medium could not be conceived of, or produced, by other means.

The surface of the sculpture results from the articulation of complex internal geometries, which in turn generate emergent elements that emanate from the interior of the object, making visible, through form, the dynamics of the system that generated them. The extremities of the sculpture are established as a direct result of the internal workings of the mechanisms that produce them and are completely dependent upon the cyber environment where they were created.

This unites and fuses the form of the sculpture. The medium becomes subject and is in fact inseparable from it. The subtle qualities and relationships between the elements within the sculpture could not be achieved with conventional materials and techniques. The result is a new order of object.

## TECHNICAL STATEMENT

This bronze sculpture was modeled in 3ds Max and output as an STL file to a 3D Systems SLA device. The SLA was then cast into bronze using the ancient lost-wax technique and burnished to a mirror finish. The form of the object is developed in, and dependent upon, the cyber environment where objects and their surfaces offer no physical resistance and can be seen to pass through each other. The mirrored surfaces of the burnished bronze sculpture emulate this virtual quality by reflecting images of the form from within itself, thus generating an ambiguity between the virtual and the real.

**Gil Bruvel**  
 Bruvel Studios  
 PO Box 1767  
 Wimberley, Texas 78676 USA

bruvel@aol.com  
[www.bruvel.com/sculpture](http://www.bruvel.com/sculpture)

# Gil Bruvel



*Mask of Intent, Mask of Sleep, Mask of Whispers*  
 11.5 inches x 6 inches x 6 inches  
 Stainless steel, 3D modeling and rapid-prototyping sculpture

## ARTIST STATEMENT

My masks represent my fascination with perception. I see the tension or “ambivalence” between what I call “constraint and freedom,” that the individual human perception of self and psyche can either limit or liberate. We have the ability to make ourselves our own prisoners — but we can also free ourselves as well. These masks seek to examine the mutable nature of identity in order to understand the ways in which individuals perceive and represent themselves to the world.

Nowadays, culture is not about the art so much as it is about what it can represent socially.

## TECHNICAL STATEMENT

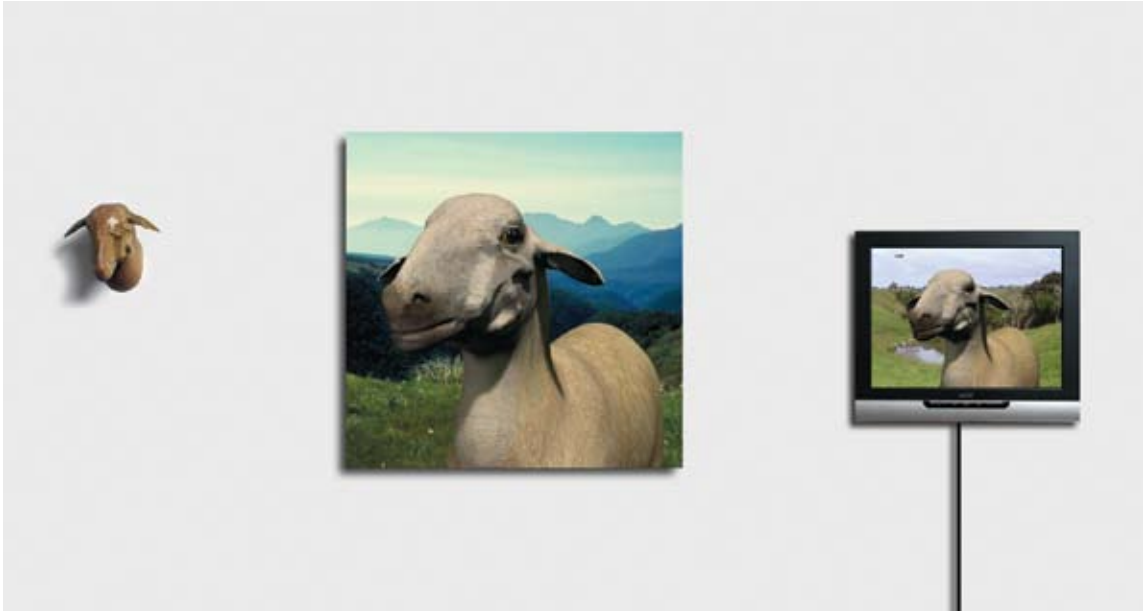
For his 3D modeling, Gil Bruvel uses modo, Maya and Zbrush, and for STL file manipulations, Magic X from Materialise. He typically builds his sculptures from very simple polygonal meshes that he turns into subdivision surfaces with modo. Once the modeling is finished with modo, he does some detailing in ZBrush. When he considers the sculpture finished, he converts the polygonal mesh into an STL format, and then uses Magic X to fix the parts or cut them into different parts if necessary to fit the building block of his 310 Zcorp printer.

He also uses another rapid prototyping process from ProMetal, printing his 3D models with an R2 Direct Metal machine. This process is capable of producing components directly in metal that would be otherwise impossible to produce by any other means, examples are shown above. Bruvel considers this a revolutionary process that is changing the paradigm of the creative process.

# Brit Bunkley

**Brit Bunkley**  
Quay School of the Arts  
57 Campbell Street  
Wanganui, New Zealand

brit@ihug.co.nz  
www.britbunkley.com



*Sheep Jet Head*  
40-inch square, an 8-inch x 10-inch x 10-foot sculpture, and a 20-inch flat LCD video screen  
Rapid prototype sculpture, 2D Lambda print, 3D animation

## ARTIST STATEMENT

*Sheep Jet Head* is a series of interrelated artworks created with 3D software that incorporates a displacement map of an iconic jet plane on a 3D model of a sheep within a rural landscape. In these three works, an element of the same 3D files is output in different media in this case as a 2D print, a 3D print (LOM rapid prototype), and a component of a video composited with actual footage. For me, the same digital entities (manifested in different forms) provide interesting examples of the ontological questions:

What constitutes the identity of an object? Can one give an account of what it means to say that a physical object exists? What are an object's properties or relations and how are they related to the object itself?

Such questions have been the subject of inquiry by artists for decades (most notably Magritte and Kosuth) and now have taken on a new significance with the relatively recent introduction of technologically sophisticated digital illusions.

This series of artworks use flora and fauna commonly found in New Zealand and modifies them digitally in order to implicitly infer psychological, environmental, and social dislocations. My environment has clearly played an important role in the creation of this work. I moved from New York City in 1995, to rural New Zealand (where I live surrounded by sheep paddocks).

With an affinity to staged photography, these current images attempt through ambiguity of scale, material, reflection, and perspective to blur the line between images of virtual objects and actual objects in a believable but slightly skewed setting that is both convincing and unsettling.

## TECHNICAL STATEMENT

*Sheep Jet Head* is a 2D Lambda print created from a 3D file. The 3D file was modeled with 3D Studio software utilizing a displacement map of a jet plane icon on a model of a sheep composited on a photograph of rural New Zealand. The "displacement map modifier" modifies a dense wire frame mesh with a bitmap/raster image. The light areas of a 2D image "push" the digital mesh while the dark areas "pull" the mesh, resulting in an embossed-like relief; the software pushes as if the vector mesh were a taut rubber sheet. In the video, the same file is animated (composited on a different background in video). It was edited in Premiere Pro.

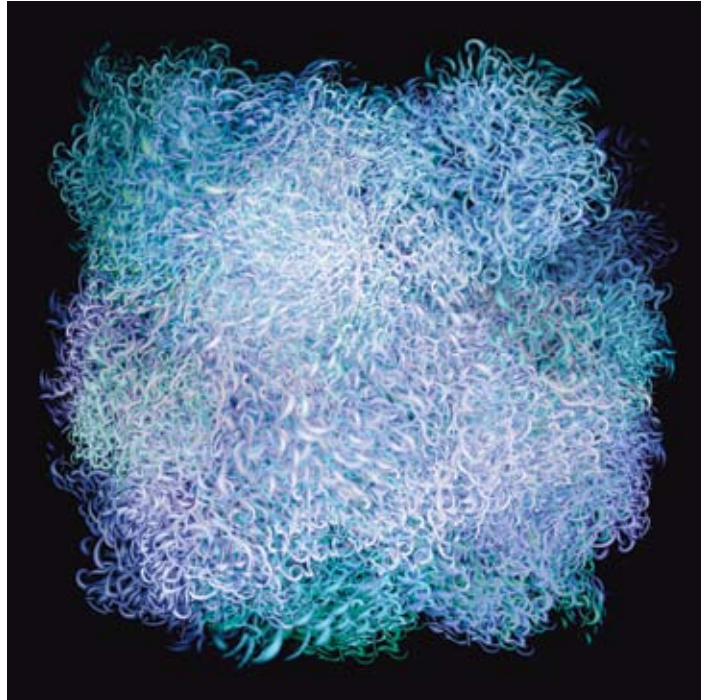
The rapid-prototype sculpture was created using the LOM (layered-object manufacturing) process, an old rapid-prototyping process that cuts cross sections of the model on layers of glued papers with lasers.



Sheriann Ki Sun Burnham  
Independent Artist  
227 Ancona Drive  
Long Beach, California 90803 USA

kisun@earthlink.net

# Sheriann Ki Sun Burnham



*Tortuosity #59c*  
36 inches x 36 inches  
Inkjet and acrylic on paper, over canvas

## ARTIST STATEMENT

This work represents the further evolution of my *Tortuosity* series. Whereas earlier *Tortuosity* paintings were monochromatic, recently I have been exploring color to reveal and emphasize previously hidden structures and details. With the addition of color, they seem to have come alive. Who knows if these floating clusters represent manifestations of inner or outer, micro or macro space. The forms ebb and flow, evoking something real, yet imaginary.

## TECHNICAL STATEMENT

Discovering new ways to create larger structures with more densely packed complexity, smaller “elemental” units are now being combined to create larger units. These structures are then recombined using a variety of layering techniques to build up the intricate compositions. The imagery is created entirely in Adobe Photoshop, using a Wacom graphics tablet. The completed digital paintings are then output as inkjet prints and mounted for final presentation.

**Terry Calen**  
Independent Artist  
14226 12th Avenue SW  
Burien, Washington 98166 USA

trc@plazadelpixo.com  
www.plazadelpixo.com

# Terry Calen



0512  
24 inches x 24 inches  
3D modeled image, archival inkjet print

## ARTIST STATEMENT

Since first becoming aware of 3D rendering technology in the mid-1980s, I believed it was the perfect medium for expressing one's imagination. While it is most commonly used to mimic reality, I prefer using this technology to create clean, bold, graphical images that clearly do not mimic reality but do have a photographic quality about them.

My underlying inspirational sources are mostly hidden. Although it may be obvious that many of my images are inspired by nature. Those sources are only starting points for exploration and often evolve based on discoveries I make along the way. There are usually several related perspectives to explore, and each may develop separately over time. This was the case with the image presented here. It is one of several images, originally inspired by dreaming about pixels, in which I used rectangular blocks as compositional elements. Each of these images explores, from a slightly different perspective, a long-held fascination with structure.

## TECHNICAL STATEMENT

The image was modeled using Luxology's Modo subdivision surface modeler, and rendered to 10,000 x 10,000 pixels in Electric Image Animation System. Texturing was done using procedural shaders from EI Technology Group, Konceptoine, and Triple D Tools. Adobe Photoshop was used for compositing and touchup. It was printed on Epson Ultrasmooth Fine Art Paper using Ultrachrome inks and an Epson 7600 printer.

# Alessandro Capozzo and Katja Noppes

**Alessandro Capozzo**  
Independent Artist  
via Monza 51  
Cernusco sul Naviglio  
20063 Milano, Italy  
alessandro@ghostagency.net  
www.abstract-codex.net/exuvia/

**Katja Noppes**  
Independent Artist  
via Barrili 31, 20100 Milano, Italy  
noppes@tiscali.it  
www.katjanoppes.net



*Exuvia*  
75 inches x 22.5 inches x 25 inches  
Art installation, analog-digital mixed media

## ARTIST STATEMENT

The collaboration between Alessandro Capozzo and Katja Noppes is based on the possibilities of merging different experiences in different media: coding as an expressive medium and painting as an analogue process. *Exuvia* is the first result of their method.

The installation suggests a narrative flow, starting from a metamorphosis – referring to an empty chrysalis (exuvia) as the printed memory of an absent object – until the spreading wings climax: vital, delicate and ephemeral as software could be. Interaction between an analogue medium and a digital one forms a synthesis of the properties of these two elements, transcending mere software objectification and material dynamization.

## TECHNICAL STATEMENT

*Exuvia* is a mixed-media installation consisting of a semi-transparent synthetic-material mould of a desktop computer (and its peripherals) and an LCD display with an epoxy-resin layer mounted on. A representation of dragonfly wings has been imprinted into the resin by several analogue processes. Semi-generative software (built with Processing) is visualized on the prepared LCD display: a set of attractors “drive” a cellular-automata flow through the wing’s lines of force.

Custom software: (built with Processing).

Screen: 30 x 36 centimeters. Epoxy resin on LCD display.

Mould: 190 x 57 x 64 centimeters. Synthetic material with talcum powder.

Various hardware, cables, and iron mongery.

**Alexdrina Chong**  
Bowling Green State University  
1000 Fine Arts  
Bowling Green, Ohio 43403-0204 USA

alexdrina@alexdrina.com  
www.alexdrina.com

# Alexdrina Chong



*Axiomatic Wisdom*  
32 inches x 57 inches  
Photoshop with Wacom tablet, inkjet print

## ARTIST STATEMENT

As a graphic designer, I work with themes and concepts. There's always a struggle between the balance of clarity and personal expression. However, when I draw, the best of me arrives when I manage to simply detach from this balance. As all my "artistic" training becomes inert, the iridescent chaos of the mind lights up the space for a quiescent dialogue between the subject (my drawing) and me. When working with other media, technical issues, quite often interrupt the flow of my expression. Trials and failures eventually discourage the process and distance me from the impetus to create. Surprisingly, this obstacle is removed when I work primarily with digital media, especially when I draw with a digital apparatus such as a Wacom tablet.

Even though most of my works are non-representational in nature, within the drawings one can find words and other indications of the sources that have indirectly influenced the process of creation. *Axiomatic Wisdom* is a piece that was done while I was having a conversation online with a friend from Russia and listening to a live report on the disappointing 2004 election results. Our conversation revolved around the topic of unilateral and axiomatic thinking in

American society. However, there were other levels of the story going on in my mind, overlapping with the conversation and subconsciously illustrated in the composition.

I believe my work introduces a different dimension to both digital artists and artists in "traditional" media simply because the expression manages to transcend the medium. A lot of digital artists are very medium-driven. My works simply illustrate the dialogue between the subject matter and myself.

## TECHNICAL STATEMENT

This piece was created in Photoshop using a Wacom tablet (Graphire). The intention was to create an image that has an ink-drawing or etched look. Photoshop has numerous applications that allow the artist to create effects needed for this approach. One can create different brushes and textures to achieve certain effects. Having control over the sizes of the brushes is a great advantage for the artist. It supports experimentation with different single-brush textures and strokes. The layering application, on the other hand, allows the artist to play with layering imagery (textures, typography, etc) to create an ink smearing and running effect.

# Sandra Crisp

**Sandra Crisp**  
Independent Artist  
Flat 9  
11 Dennington Park Road  
London, NW6 1BB United Kingdom

mail@sandracrispart.com  
www.sandracrispart.com



*Global Happenings Excel 23*  
10 inches x 39 inches  
Archival inkjet print



*Infoscan 4*  
17 inches x 39 inches  
Archival inkjet print

## ARTIST STATEMENT

The fact that digital materials are entirely code driven, mutable and transformable presents entirely new possibilities for the creative process and visual representation. Eclectic materials archived on a computer's hard drive are reworked and recycled over time. Through continual cut and pasting, layering and erasing, unusual juxtapositions emerge between ordinarily unrelated materials. The digital archive becomes an extension to the mind, memory and creativity. Complex dynamic visuals form a mapping of time and process, mirroring the constant flow of information through databases and the media in our current society.

Exhibited small scale detail appears dense and compact, but as a large-format panoramic image, more and more embedded information is gradually revealed to the viewer.

## TECHNICAL STATEMENT

Works are entirely digitally generated using a PC and assembled onscreen using Photoshop layering techniques.

Digital materials are collected mainly using a digital camera and occasionally a flatbed scanner. Vector drawing is created using a mouse. Screen grabs are frequently used to flexibly import jpegs and gifs from different open program windows (internet browsers and word processing software for example). The image resolution is high and the file dimensions large to increase high saturation and detail for large format printing.



# Mark Cypher

**Mark Cypher**  
 Murdoch University  
 10 Fifth Avenue  
 Beaconsfieldperth 6162 Australia  
[m.cypher@murdoch.edu.au](mailto:m.cypher@murdoch.edu.au)  
[www.mcc.murdoch.edu.au/multimedia/mark/biophil/biophil.html](http://www.mcc.murdoch.edu.au/multimedia/mark/biophil/biophil.html)



*Biophilia*  
 10 feet x 15 feet x 20 feet  
 Art installation, camera tracking with game engine

## ARTIST STATEMENT

*Biophilia* enables participants to interact with and generate organic forms based on distortion of their shadows. Coined in 1984 by sociobiologist Edward O. Wilson, “biophilia” refers to the need of living things to connect with others, even those of different species. *Biophilia* attempts to absorb and synthesize users and their contexts, producing unpredictable patterns of propagation and hybridity.

A number of myths and metaphors are used to describe the origin of picture making, most of which involve shadows. Plato’s cave allegory describes how our understanding of the world through vision is not necessarily the same as what is physically visible. Within *Biophilia*, participants and their shadows are synthesized into a larger cultural picture of self and place yet reduced to a derivative echo containing both “resemblance and menace.” The shadow resembles the participant, a virtual manifestation of the relationship the user has with the screen, at once reduced to a two-dimensional image that menacingly begins to merge with other organisms in the same screen space without consent nor care for the sovereignty of the user’s concept of self and space.

Within *Biophilia*, the relationships between inside and outside can also be expressed between computer code and interiority, known and unknown. Code sits beneath the surface and can be autopoietic and capable of self-organization, producing scary unknown emergent properties. The coding process produces these self-organising properties in the darkness of the machine, eluding attempts to construct clean boundaries between known and unknown.

Likewise, *Biophilia* creates hybrid forms, which emerge through the complex interaction between theory and practice, matter and representation, where what matters is not necessarily human.

## TECHNICAL STATEMENT

When users walk into the screen space, they generate a shadow. A video camera in conjunction with a computer running custom-built computer-vision drivers processes the image so that shapes can be tracked and converted to a three-dimensional virtual space. Three-dimensional plant forms are generated within the shadows being tracked via the camera. When another person enters the same space, the plant forms growing from the second shadow try to merge and combine, thus connecting the two users via the screen.

**Juliet Davis**  
 University of Tampa  
 302 49th Street North  
 St. Petersburg, Florida 33710 USA

julietdavis@tampabay.rr.com  
 www.julietdavis.com

# Juliet Davis



*Altar-ations*  
 Interactive media art

## ARTIST STATEMENT

*Altar-ations* is a wedding planner gone awry. It questions who is really in control of a woman's self-image and gender construction, while it also brings into focus illusions of choice and control that are commonly rendered through the internet interface itself. Choose your engagement ring, spin for your spouse, build a better baby, and manage your virginity—these options are all just a click away, or so it seems. The cyber tales become “fractured” (deconstructed) as we navigate the satirical interface and trigger excerpts from serious interviews with young people who are contemplating sexuality, marriage, commercialism, and reproductive technologies.

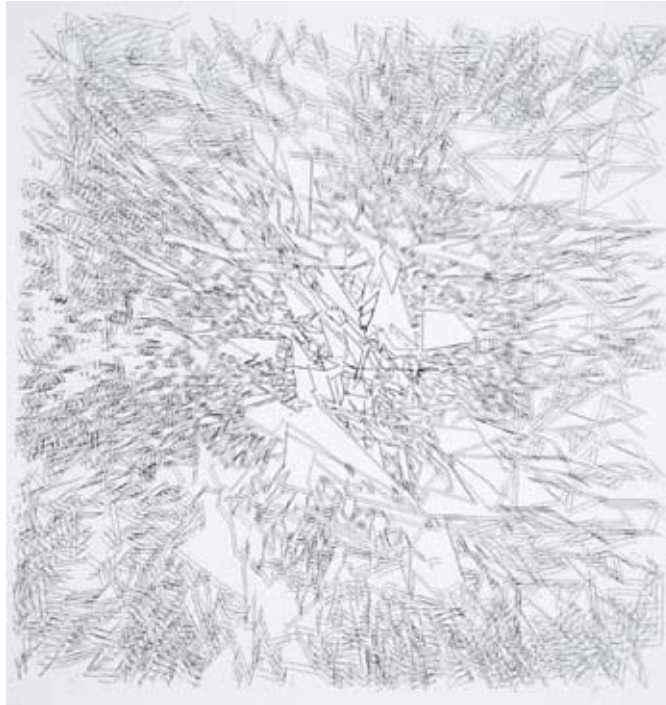
Each section of *Altar-ations* is based on feminist theory and political dialectics circulating around specific gender and ethnicity issues such as gay marriage, genetic engineering, and sexual consent. The project was designed to generate student dialogue about these issues as they engaged in the interviews and helped to produce the project. Students came from a wide range of backgrounds. For example, two students were from the Middle East, one of my students is from Sierra Leone (where the blood-diamond trade threatens the lives and limbs of villagers), one is a Catholic Italian-American, and another is gay and Christian. They brought invaluable perspectives to the project.

## TECHNICAL STATEMENT

*Altar-ations* is a game created with Photoshop, Illustrator, Flash, and SoundForge. The goal was to create functionality and interactivity that would allow participants to engage with gender and ethnicity issues through multimedia experiences. A wedding planner seemed to be an ideal interface concept because it could simulate the dynamics of choice and control that brides seem to desire.

The first step of the project was the brainstorming and experimentation phase: creating rough storyboard sketches while researching issues and sources to be parodied (for example, bridal magazines and wedding-planner web sites, diamond and biotech companies, music and sound effects, scholarly articles and theories). We also experimented with how ideas get dramatized, and what technologies can be used in interactive play, to create dramatic tension and release (how those technologies channel desire). Then, I created an interface in Flash with the home page: bubbles, flowers, and rollovers. Finally, student interviews were recorded. They directed the rest of the project and determined the scenes. For example, excerpts about “virginity” turned into “Virginity Management.” Students helped to produce the project; for example, Dana Corrigan created vector drawings for the babies section and passed them on to me to animate in Flash.

# Hans Dehlinger



*DSCN0779.1CC*  
 26 inches x 22 inches  
 Algorithmic image, plotter drawing, gel pen on paper

## ARTIST STATEMENT

My focus of interest is experimenting with the algorithmic generation of pen-plotter drawings. I wrote a program to realize a conceptual idea for a drawing, and it demanded all the strictness and logic common to computer programs. It also strongly contributes to the clarification of the conceptual idea. Later, it may use additional processes drawn from other software programs.

To write a program for the purpose of generating a piece of art is pure luxury, and it is a highly enjoyable personal experience. Such a program does not solve a pressing problem, no client is waiting for code, nobody is interested, there is no real purpose, it is serious and challenging, but it is intimately connected to pleasure, nothing but pleasure.

I make use of a number of programming languages, some of them running on very old computers, some of them still running on my Macs. Programming languages die, computer systems die, and the peripheral computer device I love most, the pen-plotter is already dead or almost so. But its high potential for realizing drawings of all types have not nearly been fathomed before it was replaced by printing technology. The plotter uses strings of HPGL code, which, in the

most simple case, are coordinate pairs that provide the commands pen-up and pen-down. It was a most irritating experience recently, after many years of serious programming, to be able to produce one of my drawings with a sort of program that consists only of a few successive search-and-replace statements applied to a list of coordinate pairs in a standard word processor.

The simplicity of the line and its indefinite richness of expression in drawings are fascinating, even more so when the design of the drawing is based on strict rules of generation.

## TECHNICAL STATEMENT

The generative process is programmed to leave larger areas toward the center of the image empty. The blurring is deliberately produced by minor scaling operations. The image is part of a series of experiments with unsharp boundaries.

# Leah Dixon

**Leah Dixon**  
Aeon Studio  
311 Jefferson Street, #4L  
Brooklyn, New York 11237 USA

leah@aeonstudio.net  
[www.aeonstudio.net/temple.html](http://www.aeonstudio.net/temple.html)



*TEMPLE: Time Tapestry*  
44 inches x 26 inches  
Large-format digital inkjet

## ARTIST STATEMENT

As human beings in the 21st century, we all have roots both in biological (planetary) nature and technological (human-created) nature; both spheres shape and affect our lives, individually and collectively. Works like this, which integrate biology and technology, are a cornerstone of my creative work.

The images in *TEMPLE* were derived from pictures of plant life, particularly of flowers. This infuses the compositions with a fertile, organic quality and a sense of structural cohesion. The floral images were layered upon themselves using simple mathematical repetitions within a grid to impose a secondary order and to create a unified visual space.

Through the natural geometry of plants, combined with the mathematical geometry of the layout and the even spacing of connected elements, it feels whole, as if it contains infinite possibilities but not chaos. The images are simultaneously symbolic and evocative. While they are highly subject to individual interpretation, they ultimately point to a pure dimension of existence which integrates many of our perceived dualities, and so gives a window into the infinite possibilities that life holds for all of us.

## TECHNICAL STATEMENT

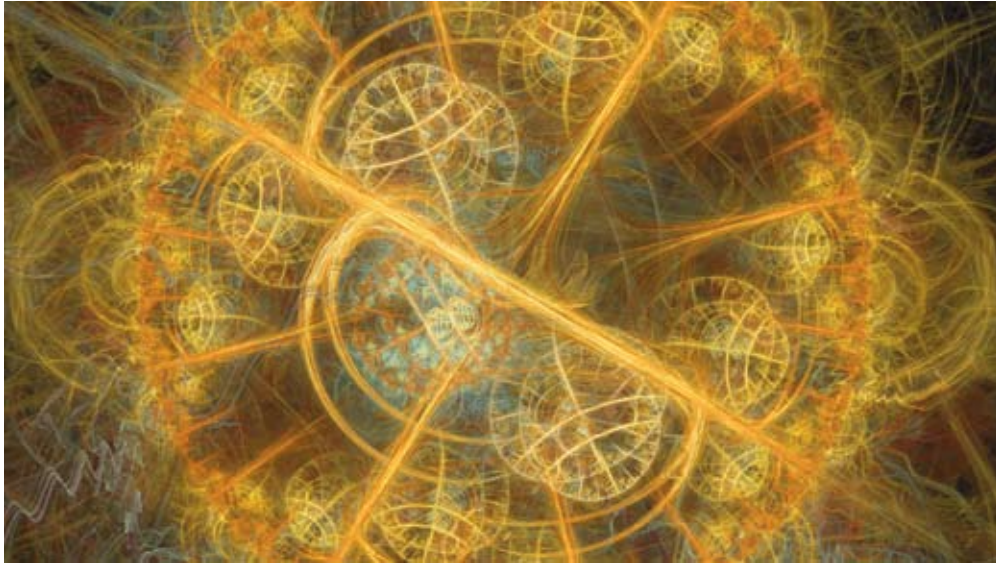
The original long-form video, *TEMPLE*, was created using original digital photographs that were animated and subsequently (for the purposes of this print and others like it) “de-animated”, or turned into a series of still frames side by side, using Photoshop and AfterEffects. A simple one-line algorithm using AfterEffects expressions determines some of the essential animation techniques that give *TEMPLE* and *TEMPLE: Time Tapestry* their unique visual stamp.



# Scott Draves

**Scott Draves**  
 SPOTWORKS  
 142 Taylor Street  
 San Francisco, California 94102 USA  
 siggraph@draves.org  
 www.hifidreams.com

The Electric Sheep



*Dreams in High Fidelity*  
 24 inches x 42 inches  
 Distributed screensaver, aesthetic evolution, custom software

## ARTIST STATEMENT

*Dreams in High Fidelity* is a painting that evolves. It was designed and rendered with a cyborg mind composed of 30,000 computers and people mediated by a genetic algorithm.

Physically it consists of a small computer driving a large high-definition display. The computer creates a continuously morphing, non-repeating, abstract animation.

The animations are realized with the Electric Sheep, a distributed screen-saver that harnesses idle computers into a render farm with the purpose of animating and evolving artificial life-forms, each known as a "sheep." The voting of the audience determines the fitness function: the most popular sheep live longer and reproduce.

Interested users can download additional software and become sheep designers. They manually edit genomes and post them to the server where they join the flock. Hence the artificial intelligence of the server collaborates and competes with a human design collective.

Starting in 2005, the artist began to use the Electric Sheep as raw material for creation of *Dreams in High Fidelity*. He selects his favorite sheep from the archives and public flock and sends them back to be re-rendered at high fidelity: heaven for an electric sheep.

*Dreams in High Fidelity* is available in a limited edition of four. Each has a slightly different flock and includes a sheep unique to it. Each flock resonates differently on playback so its sheep have a unique frequency distribution.

## TECHNICAL STATEMENT

The genetic code of a sheep is about 240 floating-point numbers long. It is rendered into an image by the Fractal Flame algorithm, a generalized and refined type of iterated function system. Despite appearances, the implementation is strictly two-dimensional.

There are about 55GB of 1280x720 mpeg4 video stored on the hard disk of the playback computer. The content is stored in a directory of 1,000 clips, each 30 seconds long. The clips are arranged in a graph, with each clip having multiple successors (five on average). They are woven into a seamless, non-repeating sequence in real time.

Each frame of video takes about one CPU-hour to render. The whole *Dreams in High Fidelity* would have required over 100 years of work on an ordinary PC.



# Ed Eaton

**Ed Eaton**  
Independent Artist  
402 Citadel Drive NW  
Calgary, Alberta T3G 4Y9 Canada

eeaton@dirrt.net  
[www.edeatonart.com/home.html](http://www.edeatonart.com/home.html)



*Wall Sculpture with Postits*  
42 inches x 32 inches  
CG-generated 2D image (3ds Max)

## ARTIST STATEMENT

This work combines and contrasts the highly architectural and sculptural materials of acrylic sheet and polished stainless steel with the ubiquitous, instantly disposable office PostIt note. Each red acrylic square holds a fresh, unmarked PostIt.

The work forces viewers to re-address their views on tough, structural materials and everyday, throw-away objects.

## TECHNICAL STATEMENT

Unable to produce large-scale sculpture in real time, Ed Eaton uses 3ds Max to produce virtual pieces of sculpture that look real but are unaffected by irritating real-world influences such as gravity.

Working in the CG world, complex pieces can be completed in a matter of hours, using any material, and at any scale.

**Sherban Epuré**  
 Independent Artist  
 60-11 Broadway, 5L  
 Woodside, New York 11377 USA

bles17@earthlink.net  
[www.sherban-epure.com](http://www.sherban-epure.com)

# Sherban Epuré



*Cybernetic Ceremony in Black Velvet*  
 40 inches x 30 inches  
 Inkjet print

## ARTIST STATEMENT

This work is a storyboard that describes a development in two stages. In step one I build a Meta-Phorm. A Meta-Phorm (meta + metaphor + form) is intended to be the visual appearance of an abstract creative proposition by setting geometrical forms into a game relationship that emulates a cybernetics model (a situation where various structures or systems are interconnected by input, output, and feedback events).

I consider all the visual elements that participate in the build-up from the fine-art point of view. The scripts, graphs, and formulas in the left side alongside the 12 profiles at the bottom of the page, describe geometrical events of the developments in the central image and provide an environment for it. Any included symbol fulfills two meanings: the mathematical sequence and as a visual sign in the fine-art composition. Therefore, not all the mathematical developments are detailed, and they are inserted only when considered appropriate from the final composition's point of view. I use conventional and/or personal mathematical symbols.

In stage two, the Meta-Phorm created in stage one is handed over to the mathematical operations buried deep in the multiple features of the software/hardware. They analyze, recognize, and extract electronic/mathematical attributes that the image is reduced to and reorganize, shift, and transform them. Connected as a mathematical continuum of numbers and formulas, the colors, their shape, and the surfaces they occupy are handled simultaneously and therefore make up a new unified meta-composition, which could not be invented otherwise.

## TECHNICAL STATEMENT

By its very nature, my concept originates, exists and unfolds in the realm of abstract thinking. The computer is required if the work is to become visually explicit and reach its full potential. Everything needed to accomplish this goal is provided by commercially available technologies, such as the Adobe Professional Design Suite software. They provide filters and effects that I use in overlapping and recurrent successions to serve the concept of the piece.

# Lisa Erdman

## CONTACT

### Lisa Erdman

Florida Southern College  
715 Orange Park Avenue, Apartment C  
Lakeland, Florida 33801 USA  
erdman144@yahoo.com  
www.annualcheckup.org

### COLLABORATORS

Shaun Foster, Animation  
Mattias Nilsson, Graphic production  
Amy Singleton, Graphic production  
Brett Toward, Performer  
Meghan Garland, Performer

Soren Garland, Performer  
Katie Garland, Performer  
James Young, Performer  
Diane Baum, Performer  
Sharon Scherer, Performer  
Ben Williams, Performer  
Dennis Drapiza, Performer  
Trisha Stephens, Performer  
Sandra Stephens, Performer  
Sony Eugene, Performer  
James Beck, Voiceover  
Michael Barickman, Voiceover



Jesurex  
15 inches x 20 inches  
Inkjet prints on semi-gloss paper



Abstinex  
20 inches x 15 inches  
Inkjet prints on semi-gloss paper

*Annual Checkup: Pharmaceuticals for the 21st Century*  
Experimental digital video

## ARTIST STATEMENT

*Annual Checkup: Pharmaceuticals for the 21st Century* uses the medium of advertising to speak to its audience about current issues that we often feel uncomfortable talking about out loud; sexuality, religious faith, and politics. Using satirical humor, the ads in *Annual Checkup* offer the opportunity to strengthen one's sense of religious faith, promote sexual abstinence, and increase one's sense of patriotism.

The pharmaceutical ad format is adapted because of its use of comforting images and the eternally smiling faces of people in the ads for medication that may or may not work. This pharmaceutical format also speaks of the increasingly popular "quick-fix" approaches to treating a vast array of physical and mental health ailments.

The goal of the ads in *Annual Checkup* is to stimulate thought and discussion surrounding some of the issues that have moved to the forefront of sociopolitical discourse in the United States in recent years: freedom to question faith, the definition of patriotism and citizenship, personal choice in issues of morality and sexuality, and the role that government should or should not play in all of these issues.

## TECHNICAL STATEMENT

The video-based ads for *Annual Checkup: Pharmaceuticals for the 21st Century* were created using the following equipment and software: Canon Elura 90 digital video camera, Mac G4 laptop, iMovie, Adobe Photoshop, iPhoto, QuickTime, 3ds Max, Amadeus audio software, and Macromedia Flash. Music soundtracks for the video ads were created by DJ in Awe, Richard John and Extreme Music, Ltd. The posters were created on a Mac G4 laptop, using Adobe Photoshop, InDesign, and Illustrator. Photographs used in poster ads were provided by the Corbis Education Collection.



Homotrol  
20 inches x 15 inches  
Inkjet prints on semi-gloss paper



Ethnixox  
20 inches x 15 inches  
Inkjet prints on semi-gloss paper



Patriotec  
20 inches x 15 inches  
Inkjet prints on semi-gloss paper



Consumerin  
20 inches x 15 inches  
Inkjet prints on semi-gloss paper

**fi5e**  
 Independent Artist  
 540 West 21st Street  
 New York, New York 10011 USA  
 fi5e@ni9e.com  
 ni9e.com/graffiti\_analysis.php

NYC graffiti writers:  
 HELL  
 AVONE  
 JESUS SAVES  
 KATSU



*Graffiti Analysis*  
 Urban projection, graffiti artist HELL pictured above

#### ARTIST STATEMENT

Graffiti is an important part of urban human communication that is often marginalized. It is a raw form of self expression divorced from regulation, curation, and control, and it is a phenomenon evident in varying cultures from cave paintings to Roman baths to the F train. Despite governments' best efforts at elimination, graffiti is innately tied to the human condition and will continue to be prevalent in urban centers, constantly adapting to the realities of nature, economics, technology, and law enforcement. Graffiti is an important and, in many cases, a healthy voice in urban environments.

By melding the technical language of code with the visceral language of written graffiti, I aim to reach the attention of city dwellers who have become numb to the relevance of the writing on the walls. The transformation of written graffiti tags into new and unexpected digitally augmented forms allows them to be looked upon with fresh eyes. Graffiti is often branded as "gang related," "vandalism," and "a quality of life offense." By digitizing the written form and re-presenting it in an analytical, thoughtful, and expressive way, these stigmas recede into the background, creating an environment where the viewer is free to explore un-tainted form and content. It is my intent that through the language of analysis, viewer's defenses will be lowered just enough to see a glimpse of the beauty that is written all around them.

#### TECHNICAL STATEMENT

*Graffiti Analysis* makes visible the unseen movements of graffiti writers in the creation of a tag. Motion tracking, computer vision technology, and a custom C++ application are used to record and analyze a graffiti writer's pen movement over time. These gestures are processed to produce algorithmically generated digital projections that appear at night in motion on the surfaces of buildings in New York City.

Relationships are created between analog and digital graffiti styles, forming a link among traditional graffiti, experimental street art, and new media. Graffiti is re-presented in the language of information analysis, offering a system for greater understanding of a highly coded form of creative expression.



# Miguel Fiadante

**Miguel Fiadante**  
55 Webster Avenue, Loft 411  
New Rochelle, New York 10801 USA  
fiadante@fiadante.com  
www.fiadante.com

Raffic Ahamed  
Amy Allocco  
Siddharta Bannerjee  
Swarnab Narayan Ray  
Jhulan Dey



*Dream Stage 3 - Procession*  
21 inches x 40 inches  
Collage and digital collage: drawing, photo, paint, Cruse scan, Photoshop, Maya

## ARTIST STATEMENT

*Dream Stage 3* explores Raffic Ahamed's "Procession" dream in a 2D and 3D environment. In "Procession," we are in a dream state made up of structural elements from three religions: a mosque, a church, and a Hindu temple. The women in the procession are from Adivasi (Indian tribal communities). They have obscured faces or are faceless, which is indicative of the situation of the Adivasi woman in Indian life. We see symbols of Indian folk traditions, including puppets, pots and the "dummy" horse. As in modern Indian life, the dream state is mixed with Western presence in the form of cherubs, heralds, and stained-glass windows.

The 2D realization is a collage of drawings, magazine clippings, and paint. This is juxtaposed with the 3D digital collage animation. Each has its own power and ability to communicate. The 2D version engages and requires the "animation" to happen in the mind, meaning that each viewer has a unique personal rendering of the dream. However, the viewer of the 2D image must start from a singular perspective. With the 3D version, the viewer moves further into the dream and may commence the journey from different perspectives and junctures. The dream becomes more enveloping in the 3D version: a deeper representation of the dream state itself.

## TECHNICAL STATEMENT

The collage was scanned using a Cruse CS285 ST wide-format scanner, generating a file of approximately 200MB. The image was then dissected into numerous layers and elements in Adobe Photoshop. Approximately 70 percent of these elements were then re-created in Maya. The various elements were then re-assembled and animated in Maya and finally exported as a movie file. Direction and editing were discussed between the artists via email.

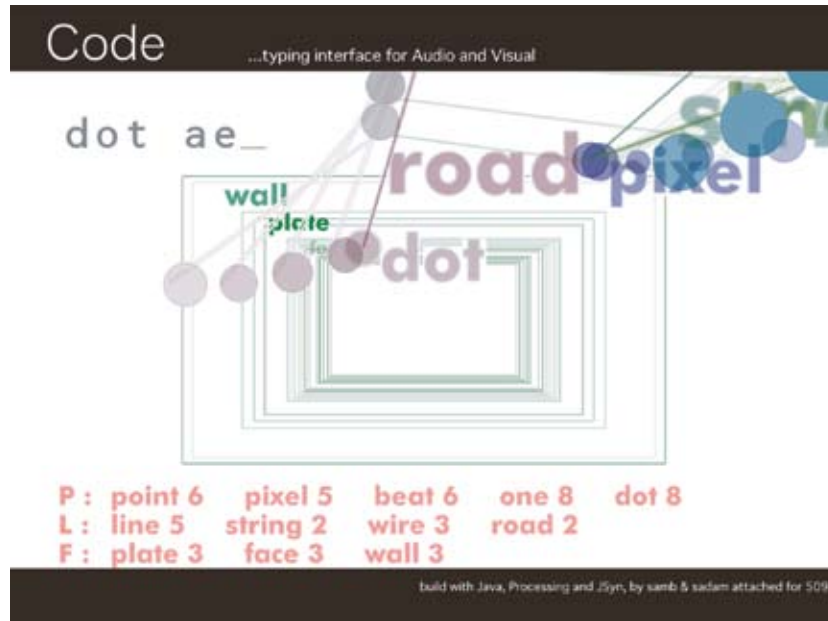


Sadam Fujioka &amp; Osamu Sambulchi

Kyushu University  
 ADCDU  
 NaKamura Lab  
 4-9-1 Shiobara, Minamiki  
 Fukuokacity 815-8540  
 Japan

fuctracker@hotmail.com  
[www.samb.jp/contents/Code/Code\\_e.htm](http://www.samb.jp/contents/Code/Code_e.htm)  
 Code\_ver2.0.10.zip

# Sadam Fujioka and Osamu Sambuichi



Code  
 Screen-based art  
 Software application

## ARTIST STATEMENT

General interest is turning to analog processes even though computer advancements are rapidly accelerating artistic expression toward even greater digitalization. One of the factors underlying this trend is that the digital quality is never as good as the original analog quality despite super-high resolution. Another reason is analog expression's emphasis on ambiguity.

Computer advancements have enabled digital processing on a level unimaginable in the past. One gets the feeling, however, that freshness and innovation are suffering while digitalization continues to improve the quality of expression. Even though digital elements impress us with their realism, those same elements will feel extremely unsophisticated and unnatural in just a few years. By contrast, live performances will always remain true.

Unless the digital world becomes more realistic, it cannot surpass the quality of the analog world. You may wonder why some of the old digital forms of expression that should seem unsophisticated by today's standards actually seem fresher than some of those that we see today. This is because the attraction of the digital world is not its realism, but its ability to create realities that are not possible in the analog world.

## TECHNICAL STATEMENT

Code was built with Java, Processing, and Jsyn.

Images of objects are generated by typing keywords categorized as Points, Lines, or Faces on a keyboard. The images are also controlled by inputting keywords categorized as controls. There are a number of reserve keywords, and each has a function when input.

Each image has a sound sequence, and its tone coloration, volume, pitch, and sound localization is determined by the location data of the object image. The X-axis corresponds to the localization and cut-off frequency of a sound, the Y-axis corresponds to the pitch and resonance of a sound, and the Z-axis corresponds to volume. The screen is separated into seven parts from top to bottom, and the pitch of each object's sound is scaled to each of these seven parts by changing the playback speed of the sound file. The typing sounds and the rhythm of the sound sequence are controlled by timing.

The lifespan of an object is determined by the frequency in which its keyword is input. If the performer keeps typing without hitting a certain keyword, its object will disappear.

# Martha Carrer Cruz Gabriel

**Martha Carrer Cruz Gabriel**  
 Universidade de São Paulo  
 Rua Ibaragui Nissui 115, #1204  
 São Paulo 04116-200 Brazil  
 BRAZIL

martha@martha.com.br  
 www.voicemosaic.com.br



*Voice Mosaic*  
 Internet art

## ARTIST STATEMENT

The human dream of talking with computers in natural language is not new. Scientific fiction books and movies present several examples of it. In the early 21st century, voice recognition and speech synthesis technologies achieved enough accuracy and reliability for large-scale use, bringing to the surface the possibility of finally realizing our dreams of talking with computers, and more: not only talking with one computer at a time, but to several computers in a network.

In this context, and aspiring to create an experiment where people could talk to the web via telephone, the *Voice Mosaic* project was created.

The work, launched in July 2004, is a web art project that merges speech and image into a visual/aural mosaic on the web. The tiles in the mosaic are created by the chosen colors and recorded voices of people who interact with the work by phone, from any location in the world, through speech synthesis and voice recognition (natural language processing). The mosaic is seen and heard on the web, where several modes of interaction are available. Interactions can happen in three distinct human languages in order to encourage global participation.

Several dualities, which do not oppose each other, but instead mix and complete each other, are combined in the work: aural/visual, simple/complex, art/science, old/new, low-tech/high-tech, time/space, human/computer, individual/community, passive/active,

causality/chance, and others. Their dialogue and mixture intend to raise questions that can increase our awareness of boundary dissolutions, hybridizations, convergences, and transdisciplinary activities that influence the world more and more.

## TECHNICAL STATEMENT

The *Voice Mosaic* project would be impossible without a digital environment. The web is the most appropriate environment since it is multi-user by nature and broadly available. Database and phone/web hybridization/convergence are key features of the application. All data from the phone calls are stored in a database and used to form the mosaic on the web, and the convergence of telephone and the web allows all interactions to be seen in real time in the mosaic.

At the human interaction level, one technology is the core of the work: VoiceXML, which enables voice interactions between humans and computers. Without a voice gateway rendering VoiceXML commands, it would be impossible for users to “talk” to the application.

Completing the interaction scenario, Flash technology integrated with the database realizes several data-visualization methods (including mapping) allowed by digital media environments.

**Gregory Garvey**  
 Quinnipiac University CLA-1-316  
 275 Mount Carmel Avenue  
 Hamden, Connecticut 06518-1949 USA

greg.garvey@quinnipiac.edu

# Gregory Garvey



*Suprematist Composition V*  
 9.75 inches X 9.75 inches X 5 inches  
 Interactive digital video

## ARTIST STATEMENT

*Suprematist Composition V* explores the space between stillness, expectation, surprise, and confirmation. Through the glass window of a porthole, the viewer sees digital video of a black cross in dramatic perspective, undulating slowly and silently. Opening the window of the porthole triggers the display of a swimmer in motion. Closing the porthole window triggers the redisplay of the “Suprematist Cross.”

This work is part of a continuing series that re-investigates or remediates the early 20th century reductionist impulse as seen in Russian Suprematist art. Exploring the possibilities enabled by technologies of interaction, *Suprematist Composition V* not only “refashions” a prior media form, but also turns it on its head by including prohibited subject matter.

For Kazimir Malevich, “the supremacy of pure sensation” was the guiding principle and was best expressed by “non-objective” abstract geometric forms (square, circle, cross). Malevich wrote in 1916: “We will not see a pure painting before the habit to see in canvases depictions of nature, Virgins or shameless Venuses is abandoned...”

However, pure sensation gives way to expectation inspired by the moving image and furthered by interactivity. Although the visual syntax of narrative film is avoided, a story is told as the viewer constructs a new experience, lasting as long as he or she wishes. Functional brain imaging reveals that as we gaze at either male or female semi-

clad bodies, localized areas of the brain light up in response to this “pure sensation,” leading to a cascade of associations, memories, and emotions and physiological responses.

Noting the affinity between the work of Malevich and Kandinsky’s *Weisses Kreuz (White Cross)* of 1922, Lucy Flint observes: “The cross is an evocative, symbolic form.” Today its evocative power remains beyond “pure sensation.”

## TECHNICAL STATEMENT

In this interactive digital video installation, a magnet reed switch mounted on the porthole window frame is connected to the USB port of the computer. When closed, it sends a mouse-down event, and when opened, it sends a mouse-up event. The script handler written in Macromedia Director Lingo responds to a mouse-up event by randomly selecting one of 10 digital video sequences. When the script receives a mouse-down event, it returns to the “Suprematist Cross” digital video loop sequence.

## References

Lucy Flint, “Vasily Kandinsky, White Cross (Weisses Kreuz),” Guggenheim Collection, [http://www.guggenheimcollection.org/site/medium\\_work\\_md\\_Painting\\_71\\_73.html](http://www.guggenheimcollection.org/site/medium_work_md_Painting_71_73.html)

Kazimir Malevich, “From Cubism and Futurism to Supremation... New Realism of Painting,” 1916.

# Phillip George

**Phillip George**  
Independent Artist  
11 Miller Street  
Bondi  
Sydney 2026 Australia

philg@netspace.net.au  
www.phillipgeorge.net



*mnemonicon 23*  
C-type print

## ARTIST STATEMENT

The most recent work in this series explores the idea of memory floating in a constructed tide of mnemonic icons. The memories dissolve and reappear as synaptic links are formed and fade with time.

*Mnemonic* notations, as those with long memories have noted, has been evolving for years. The artist has continuously reworked and modified this single computer file, fixing it from time to time for exhibition at the annual SIGGRAPH conference and various art exhibitions around the world.

## TECHNICAL STATEMENT

Conceptually, *mnemonicon* is derived from a file first generated in 1990. *mnemonicon 23* is one of the most recent derivatives of this work.



# Murat Germen



*Reading the Space as an Entity - Galleria Vittorio Emanuele,  
 Milan, Italy  
 30 inches x 10 inches  
 Panoramic photography*

## ARTIST STATEMENT

One of the main characteristics of panoramic photography is its ability to let one perceive the object, subject, and space of interest as an entity in relation to their surroundings. Many details on the periphery that would normally be left out in single frames become centralized in panoramic photography. As a consequence, you end up with a particular life form of its own kind, which turns out to be the synthesis of individual forms, in other words a sui generis situation. This unique narrative can be extended to cubist works and Ottoman miniatures where unrealistic multifaceted descriptions can be observed. It also reminds us of Piranesi's drawings depicting complicated, interwoven three-dimensional worlds.

## TECHNICAL STATEMENT

This photo was captured by a digital camera (Canon EOS 5D) and stitched together using the software called Autostitch. After the stitching process, the image was retouched in Photoshop for color correction. Though some of the images in the series were later turned into QTVRs, all of them were kept and printed as panoramic photos, since the above mentioned multi-faceted "cubist" quality was much better preserved in this particular format, as opposed to QTVR.



# Madge Gleeson



*Rocking Circle C*  
 32 inches x 28 inches  
 Digital artifact

## ARTIST STATEMENT

This piece is from a series of works created around the theme of open source as applied to nature and culture. In this piece, the copyright symbol is prominently displayed on the surrogate leaf. The title draws a connection to cattle branding; the copyright brand in a similar way constrains the free movement of the leaf and defines the basis of its valuation.

The series examines the associated ideas of ownership, authorship, and branding of nature using botanical subject matter as surrogates to investigate human intervention in nature. It supposes a legal system built around protecting and promoting privatization of our natural endowment in its many meanings. The work is presented with a pseudoscientific voice, in specimen-box frames showcasing images with falsely objective microscopic detail. The viewer is pushed into the role of principle investigator.

The work is fake nature branded with the signs and symbols of commercially recognized systems of valuation. Subtexts of the work are authenticity and privacy. The work investigates the myriad questions surrounding the notion of what should belong to the "commons" and what should not; it might be seen as a variant on the issues raised by the "creative commons" movement.

## TECHNICAL STATEMENT

The medium of this work is defined as digital artifact, instead of the generic term, mixed media. Each piece consists of a printed image and a more sculptural presentation concept. The images themselves are collages created through scans of physical objects composited as layers from multiple data sources. In short, they are typically fictional, and no camera is used. They are output as paintjet prints on archival paper.

Once printed, the image is incorporated into a specimen-box presentation format with sculptural elements conceptually tied to the image. Digital artifact as medium description suggest the contradiction of dual genesis, dependent on both the digital and the analog. It is an artifact in the anthropological sense (made by humans) and artifact in the electronic sense. In the end, they are not exactly photos, not exactly prints, not completely digital, and not exactly sculpture. They are digital artifacts.

# Gene Greger



*Psychopharmacology*  
 25 inches x 33 inches  
 LightJet digital print

## ARTIST STATEMENT

This piece is based on a photograph of myself taken at a time when I was being treated for acute depression. When undergoing treatment for serious mental illness, medication can become the focal point of your life. Medication to target your illness, medication to offset the bad side effects of your primary medications, medication to sleep, medication to help you stay awake. Months and maybe years of trying to find medications that work and continue to work.

Basic questions of self-identity come into play. How much of what I feel, or don't feel, is caused by the drugs? How much by the illness, and how much by my innate personality? I am not my illness, but to what extent am I my medication?

All of the pills comprising the image are, or were, commonly prescribed for mental illness; some I have been on in the past, and several I am currently taking. There are 23,373 pills in this image, taken from a unique set of 198 original images.

## TECHNICAL STATEMENT

Custom software was written by the artist in C++ and Perl on a Macintosh to create this image. The elements used to build the image were a high-resolution photograph of the artist, and 198 unique digital images of pills. Each pill image was rotated by one degree increments, resulting in 360 images for each original pill.

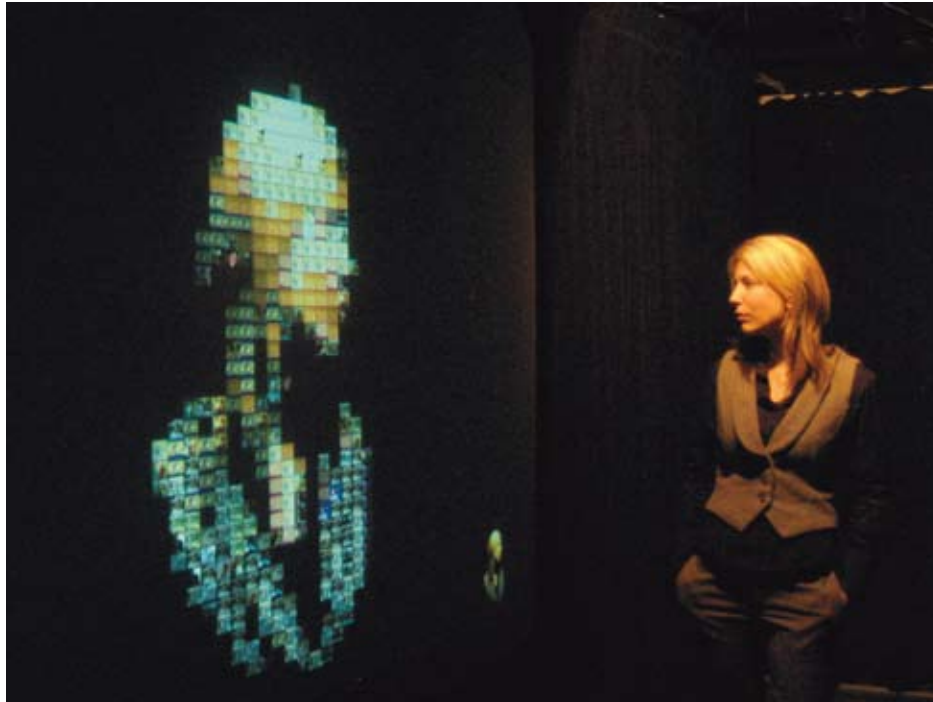
An iterative process was used to create the pill mosaic. For each iteration, a random location was chosen on the photograph. Every pill image was compared against its "footprint" on the photograph at that location and given a value corresponding to how closely it matched the underlying image. The one which most closely matched was considered a candidate for placement on an initially blank "canvas" image.

A second value was computed to represent how completely the candidate pill would cover previously placed pills on the canvas. The two values were combined, and, if they met a pre-defined metric, the program painted the pill onto the canvas; otherwise it was rejected and nothing was done for the current iteration. For this image, the program ran through 160,000 iterations, resulting in the placement of 23,373 pills.

**Jefferson Y. Han**  
 New York University  
 Courant Institute of Mathematical Sciences  
 719 Broadway, 12th Floor  
 New York, New York 10003 USA

jhan@mrl.nyu.edu  
[www.mrl.nyu.edu/~jhan/mediamirror](http://www.mrl.nyu.edu/~jhan/mediamirror)

# Jefferson Y. Han



*Media Mirror*  
 10 feet x 8 feet x 6 feet  
 Interactive video installation utilizing custom software

## ARTIST STATEMENT

*Media Mirror* is an interactive video installation in which over 200 channels of live cable television are continuously arranged in real-time to form a mosaic representation of the person that stands in front of it.

The piece explores the bidirectional relationship each of us has with mass media. It attempts to illustrate how we are inexorably shaped by the media, while at the same time, how the media itself reflects the demands of our society. The piece is also simply meant to evoke an overwhelming sense of the sheer scale of mass media.

When no user is present, *Media Mirror* places itself into an autonomous mode, in which the piece forms mosaics of one of the live channels. In effect, the mirror gets turned into the media itself.

## TECHNICAL STATEMENT

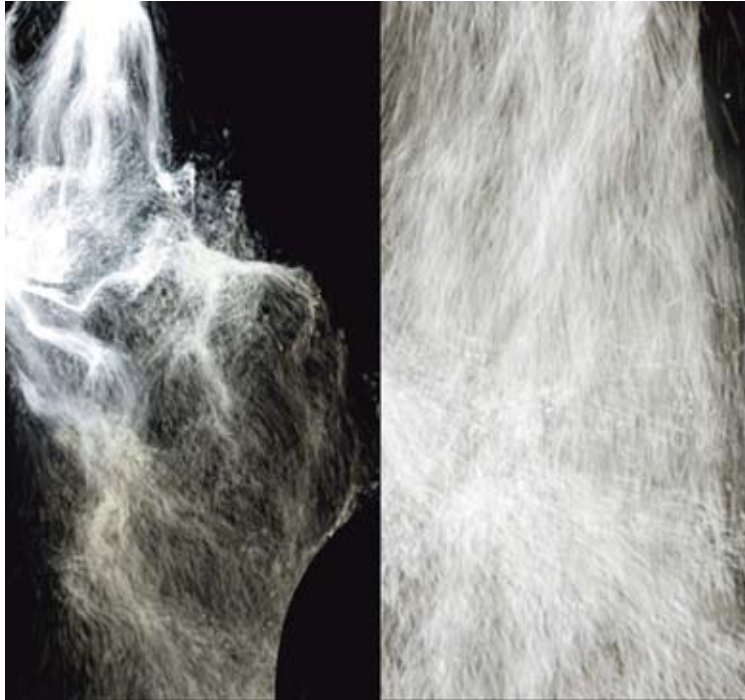
While techniques for constructing photomosaics are well known, there has been little work in constructing mosaics on video sequences [Klein et al. 2002]. However, since we restrict ourselves to utilizing only the latest (“live”) frames of video, the optimization problem becomes much more tractable, as the working dataset is much smaller (~256). Template matching is performed on decimated proxies of all video sources on the graphics hardware. A slight amount of luminance correction is applied to each tile. It was found that this combined with a distance function that is weighed towards chroma components works well.

As in [Klein et al. 2002], working with video tiles brings up a new issue: temporal coherence. If the problem is treated as an individual per-frame photomosaic, the resulting output tiles lose their original sense of continuity. Consequently, we apply a temporal weight to the optimization-cost function, in order to bias tiles to remain “tuned to the same channel” as long as possible.

# Peter Hardie

**Peter Hardie**  
Bournemouth University  
6 Sherford Drive  
Northmoor Park, Wareham,  
Dorset BH20 4EN United Kingdom

peterh@bournemouth.ac.uk  
www.virtualreflections.com



*UpDown Fall*  
44 inches x 24 inches  
3D computer animation

## ARTIST STATEMENT

The work is based on a visual reaction to waterfalls in Ingleton, Yorkshire, England. The sensation is essentially that of fast moving white water enclosed within a dark environment of rock and trees. Attributes of interest are the movement and intertwining patterns of water, and the water's shape and passage defined by the underlying rock structure, seen or unseen.

The images are primarily monochrome, reflecting the lack of any strong colours within the water, other than a yellowish peat staining. The play of light reaching the water is weak and changeable. The environment of rocks and trees was a secondary influence compared with the water and has been negated in the image, the waterfall defining the underlying structure.

The camera pans up the waterfall in the left side of the image and down the waterfall on the right side of the image. The focus is on the interaction of the water movement and the pattern and spaces between.

## TECHNICAL STATEMENT

The scene consists of models of the underlying rock structure over which the waterfall flows. These models are not directly visible, being black in colour.

The waterfall is simulated using a particle system. The workflow entailed creating the particle emitter and its settings (rate, spread, and speed), and creating the particle type and its characteristics (colour, transparency, size, mass, shader, shadowing, and noise). Particular use was made of the Perlin noise function. The basic 2D particle shader was used for both efficiency and versatility. The work also involved creating obstacles and natural forces. A number of hidden obstacles were used to control the water flow. Then the waterfall was lit with spotlights, and a camera pan was defined from the lower to the upper falls and the upper to the lower falls. Finally, the two camera sequences (up the falls, down the falls) were rendered and composited into a final sequence.

The primary software tool was Softimage XSI V4.0.



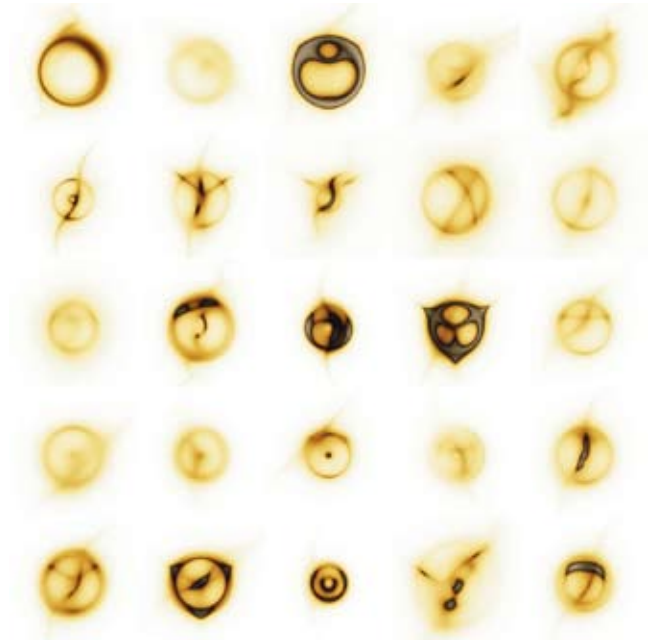
# David Hart

**David Hart**  
Independent Artist  
1619 Wilson Avenue  
Salt Lake City, Utah 84105 USA

blot@dahart.com  
www.dahart.com



*Blot 2005/01/02/10*  
30 inches x 30 inches  
Giclée on archival paper



*Blot 2005/11/14/368*  
30 inches x 30 inches  
Giclée on archival paper

## ARTIST STATEMENT

My artwork explores the aesthetic possibilities of pure mathematical equations. I am specifically seeking out forms that are organic enough to challenge any viewer's notions of what mathematics can visually represent. The vehicle for this exploration is interactive artificial evolution, a computational analogy to natural selection, which allows an artist to literally grow complex and beautiful images using equations as DNA.

The software used to create these works was written by myself, and has itself been slowly evolving for over 10 years. In some ways, I consider the software part of the art itself. Balancing the combination between simplicity of use and complete controllability is one of my goals, as well as the ability for the evolution process to give the artist an instinctive and purely visual sense of the underlying equations without the need to understand them deeply at the mathematical level; to know what they do without knowing what they are. I share some of this instinct with the viewer through the simple coloring scheme I use, which is typically composed of four colors: black, white, a reddish warm tone, and a bluish cool tone. Black represents zero, white infinity, warm represents positive values and cool negative. Knowing only how the equations produce color gives the viewer an immediate visual sense of the mathematical structure of these images.

## TECHNICAL STATEMENT

These works are plots of mathematical equations that were evolved artificially through an artist-driven mutation, reproduction, and selection process. Initially, very simple equations are mutated randomly to produce a population of new equations. The artist selectively chooses the most interesting or aesthetic images out of this population, and the chosen ones are cross-bred and randomly mutated to produce the next generation. This process often repeats for hundreds of generations before artistically viable images are achieved.

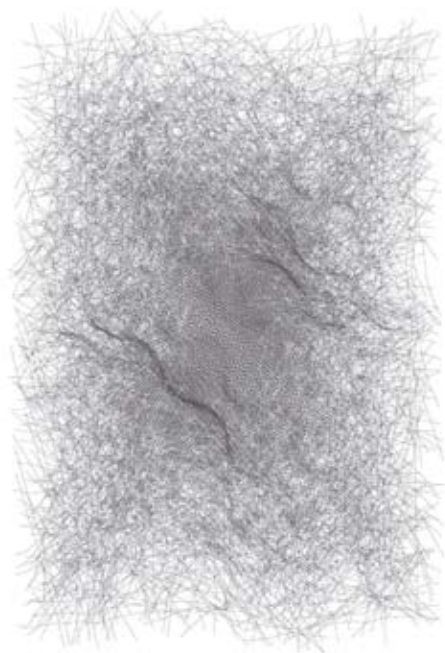


**Jean-Pierre Hébert**

Kavli Institute for Theoretical Physics  
Kohn Hall  
University of California, Santa Barbara  
Santa Barbara, California 93106 USA

hebert@kitp.ucsb.edu

# Jean-Pierre Hébert



*Rosettes grises*  
32 inches x 24 inches  
Digital print

## ARTIST STATEMENT

For an algorist, the line is a dream medium. It is at the same time simple, extensible, rich. It can be suggestive of motion, time, music, light, nature. It can be rendered in innumerable ways, styles, and processes. It is perfect material for geometry, for art, for thought. It is a natural object-oriented software subject.

This year, I have been pursuing my investigation of the line. In the past I have asked a single line with a complex behavior to build the whole work. Now, instead, I consider the line simply an element in a set, or a working individual within an active group of peers. The individual and the group have their own characterizations and behaviors, and their release and interactions create the work. I define, in particular, sets of grids (akin to the one used by François Morellet, Sol Lewit, and others) and subject them to abstract force fields and chance, striking a balance between order and chaos. This starts as a concept piece created in software, but it does not stop there: I want to see a proof on paper produced in an appropriate medium. *Rosettes grises* is one of the initial sketches and explorations made for this series. Currently, I work on similar pieces that I render on plotters or engrave as dry points on copper plates to produce hand-pulled prints on etching presses.

## TECHNICAL STATEMENT

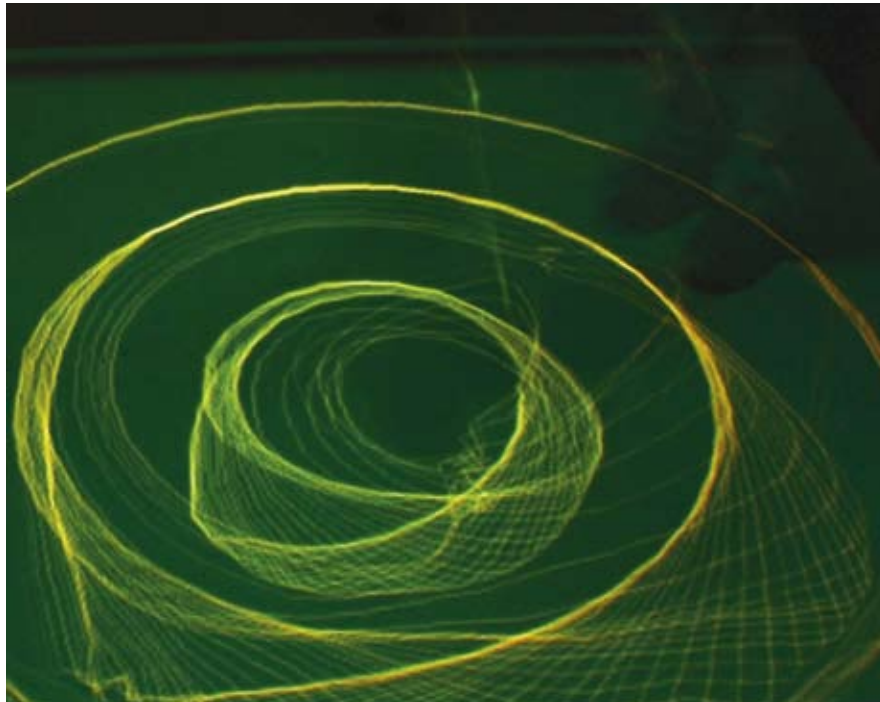
This piece results from running variations of an algorithm written in Mathematica first and later in Python. Defined sets of lines fit randomly in the space reserved for the work and are subjected to deformations and motions induced by arbitrary or random forces and also to various rendering and coloring procedures. The output mode is a choice of eps, hpgl, dxf, and tiff formats, as required by the device selected to produce the proof on paper.

# Yeoh Guan Hong

## Yeoh Guan Hong

Hyperthesis Visual Lab & Wanganui School  
of Design  
6 6B Durie Street  
Wanganui, New Zealand  
yeoh@hyperthesis.com  
www.hyperthesis.com/shiftingnature

Lin Yew Cheang  
Liew San Yen



*Shifting Nature*  
10 feet x 12 feet x 15 feet  
Art installation: interactive media with real-time motion tracking

## ARTIST STATEMENT

*Shifting Nature* is an interactive installation that studies visual form and the influences of nature and technology on human art development. It seeks a deeper understanding of the relationships among humans, nature, and today's technology.

One of the aims is to create visual representations through technology that generate unique experiences for the audience. Another is to create a sense of involvement with, and enhancement to, our living environment. Ultimately, this project explored the potential of the emergence of art, design and technology. The outcome demonstrates the importance of wilderness and natural processes.

Nature is connected to our creative process and is one of the sources for artistic inspiration. Hans Hofmann (1880–1966) was a legendary teacher, painter, and catalyst of the Abstract Expressionist movement who influenced generations of artists across Europe and North America. He wrote the following in his *Search for the Real and Other Essays*:

“Nature is the source of all inspiration. Whether the artist works directly from nature, from memory, or from fantasy, nature is always the source of his creative impulses ...” (B.Chipp., Herschel 1968, p.536)

## TECHNICAL STATEMENT

*Shifting Nature* uses computer-interaction technology that tracks the movement of physical objects. It fundamentally replaces the computer mouse and keyboard. A camera-tracking system is used to track the position of the hands or body. With the aid of an infrared (IR) array and an IR cut-off filter, this system tracks moving objects precisely without any light interference from the environment. The tracking system also provides multiple-point interaction. Consequently, it allows dynamic interaction not only with individuals but with groups.

**Troy Innocent**  
 Monash University  
 900 Dandenong Road  
 Caulfield East 3145 Australia

+613 9903 2881  
 Troy.Innocent@artdes.monash.edu.au  
 www.iconica.org/ludea/

# Troy Innocent



*Scenes from Ludea*  
 Single-channel video installation

## ARTIST STATEMENT

Cultures, languages, and ways of being may be invented within game worlds. *Ludea* is a world in which three tribes subscribing to conflicting ideologies define their territories along lines of communication. Each tribe gathers resources and tags in colour-neo-materialist orange, post-symbolic green and post-human blue. Victory goes to the clan that achieves the widest domain.

The Ludeans come from a generation that has grown up with games, abstract machines, and digital processes. It has become second nature for them to make abstractions of reality in terms of models, systems, processes, and flows. The world of *Ludea* explores the post-human condition and unstable nature of contemporary existence via three contrasting experiences of place. This occurs through signs and symbols that are mapped onto real-world locations to create meaningful connections and experiences across three different public spaces: virtual, networked and physical.

Ludeans subscribe to one of three different ideologies: neo-materialism, the post-symbolic, and the post-human. Each ideology represents a position of distrust with a particular mode of communication and has developed an alternative language to avoid using this particular mode. By way of example, the post-linguistic has come to distrust written and spoken words, and they have embraced communication that consists solely of gestures and synaesthetic icons.

The work also draws on theories of “possible worlds” generated by the combination of artificial intelligence (AI), digital games, and the idea of “world building” through invented language and culture. On a more metaphorical level, the work creates interactive spaces and systems that manifest experiences of a world characterised by uncertainty, multiplicity, complexity, and connectivity. Thus, it makes us aware of the changing nature of reality.

## TECHNICAL STATEMENT

*Scenes from Ludea* depicts a series of locations from the city of Melbourne that have been modified by various digital interventions. Each location was shot on digital video and subsequently manipulated by three main digital processes:

1. Several computer graphic icons were placed at key points in streets and laneways. In many cases, the locations were recreated within 3D computer graphics software to generate matching shadows and other details.
2. Three animated computer graphic figures were placed in doorways, shifted through the various spaces, and composited onto streets.
3. Custom software for generation of glyphs from possible iconographic languages was developed. This generative system draws, breeds, and animates glyphs from the three cultures represented in the work. Clouds of these glyphs were generated and animated for particular scenes in the piece.

# Sergi Jordà

**Sergi Jordà**  
 Music Technology Group  
 Universitat Pompeu Fabra  
 Ocata 1  
 08003 Barcelona, Spain  
[sergi.jorda@iua.upf.es](mailto:sergi.jorda@iua.upf.es)  
[www.mtg.upf.edu/reactable](http://www.mtg.upf.edu/reactable)

Martin Kaltenbrunner  
 Günter Geiger  
 Marcos Alonso



*reactTable\**  
 10 feet x 10 feet x 10 feet  
 Interactive audiovisual tabletop

## ARTIST STATEMENT

The *reactTable\** is a state-of-the-art, multi-user electro-acoustic music instrument with a tabletop tangible user interface. Several simultaneous performers share complete control over the instrument by moving physical artifacts on the table surface and constructing different audio topologies in a kind of tangible modular synthesizer or graspable flow-controlled programming language. The *reactTable\** intends to be:

- Collaborative: several performers (locally or remotely)
- Intuitive: zero manual, zero instructions
- Sonically challenging and interesting
- Learnable and masterable (even for children)
- Suitable for novices (installations) and advanced electronic musicians (concerts)

The *reactTable\** supports a flexible number of users, both local and remote. In a local collaboration scenario, two or more players can share the same physical objects and their space. This collaborative space is only limited by the diameter of the table, but a normal situation involves between two and four players. The collaborative environment can be extended when two or more *reactTables\** are connected through the net.

Sharing the same virtual space, performers can only move the physical objects (the ones on their local table), but these objects are also projected onto the remote table, and their movement may modify the shared audio threads, which provokes real interactions between displaced objects. Therefore, two or more net-connected *reactTables\** are able to fuse different physical spaces into one only-virtual audio/

visual space. In September 2005, two concerts took place with two connected *reactTables\**, one in Barcelona (International Computer Music Conference) and the other in Linz (Ars Electronica); four performers (two in each location) played the piece *Teleson*, which was specially composed by Chris Brown for this event.

## TECHNICAL STATEMENT

The *reactTable\** hardware is based on a translucent round table. A video camera situated beneath continuously analyzes the table surface, tracking the nature, position, and orientation of the objects that are distributed on its surface, which represent the components of a classic modular synthesizer. Users interact by moving these passive objects (no sensors or actuators) and/or by changing their positions, their orientation, or their faces. These actions directly control the topological structure and parameters of the sound synthesizer. A projector, also from underneath the table, draws dynamic animations on its surface, providing visual feedback of the state, the activity, and the main characteristics of the sounds produced by the audio synthesizer.

The idea of creating and manipulating data flows is well known in several fields, such as electronics, modular sound synthesis, or visual programming, but the *reactTable\** is probably the first system that deals with this connectivity paradigm automatically, depending on the type of objects involved and on the proximity between them. By moving these objects on the table surface and bringing them into proximity with each other, performers construct and play the instrument at the same time, while spinning them as rotary knobs controls their internal parameters.

**Toshihiro Kamei**  
 Kyushu University  
 6-1-14-219, Mugino, Hakata-ku,  
 Fukuoka-shi, Fukuoka-ken  
 Hukuoka 816-0082 Japan

honky-tonk-life@hotmail.co.jp

# Toshihiro Kamei



*CODE\_LINE\_Blue*  
 16.5 inches x 11.6 inches  
 3D-modeled image, inkjet print



*CODE\_LINE\_Red*  
 16.5 inches x 11.6 inches  
 3D-modeled image, inkjet print



*CODE\_LINE\_Green*  
 16.5 inches x 11.6 inches  
 3D-modeled image, inkjet print



*CODE\_LINE\_Yellow*  
 16.5 inches x 11.6 inches  
 3D-modeled image, inkjet print

## ARTIST STATEMENT

In making this work, I started by observing real plants to understand their form and structure. The shape of the virtual plants in the *CODE\_LINE* series was created by writing a computer program based on the regularity of natural plants.

The objects in *CODE\_LINE* were expressed using glass-like textures to express the plant's delicacy, which collapses if only slight pressure is applied. Though all living things have a strong vitality for survival, they also ultimately contain the potential to collapse. When there is perfect balance between these states, it is like the moment the strained thread snaps, life displays its most beautiful appearance. This work expresses that moment.

## TECHNICAL STATEMENT

The shape of the plant forms in *CODE\_LINE* was created using an original algorithm. The following procedure was used:

1. The base path was drawn which defined the direction where the plant could grow.
2. Circles were made along the path; each radius of the circle varied.
3. The surface was created by connecting the circles.
4. The surface was smoothed and textured.
5. The forms were rendered and composited.

This procedure was performed using Lightwave3D and LScript. By using this method, it was possible to generate shapes which were difficult to create using the lathe tool.



# Yoichiro Kawaguchi

## CONTACT

**Yoichiro Kawaguchi**  
The University of Tokyo  
7-3-1, Hongo, Bunkyo-ku  
Tokyo 113-0033 Japan  
yoichiro@iii.u-tokyo.ac.jp  
www.u-tokyo.ac.jp/~yoichiro

## COLLABORATORS

Ryuma Niiyama  
Mariko Fujita  
Akihiko Miyadera  
Masayuki Takagi



*Gemotional Bumpy Screen*  
31.5 inches x 23.6 inches x 15.7 inches  
Time-based image

## ARTIST STATEMENT

Until now, attempts to realize the concave-convex movements of living things in three-dimensional CG images have not been successful. In this work, a 3D image is interlocked with actual depth in the real world instead of only in the virtual world. It becomes the world of complex sensations where cyberspace and real space are mixed.

## TECHNICAL STATEMENT

A flexible screen that can reproduce three-dimensional forms at high speed is required for realization of this 3D experience. In *Gemotional Bumpy Screen*, high-definition video with 3D information is displayed on the screen, the image and the screen synchronize and react, and the operation is realized in real time.

# Davida Kidd

## Davida Kidd

University College of the Fraser Valley  
#408- 611 Alexander Street  
Vancouver, British Columbia V6A 1E1  
Canada

dkidd@shaw.ca  
www.davidakidd.com



*God Save us From Intoxicating Glances*  
20 inches x 35 inches  
Digitally composited photograph

## ARTIST STATEMENT

Cyberspace, particularly amongst teenage girls, has become the 21st-century bully's playground. The opportunity for anonymity has escalated the mean and hateful role-playing that teens would normally do off line.

The characters I create appear to be dredged up from the darker recesses of the subconscious. However, I try to render them from the point of view of compassion. They consist of composites of human parts found and made, my own photography, constructed sets, drawing, bits from my memory and an eclectic collection of ephemera. I have invented subtle character "types" that have characteristics that we all might vividly remember: the domineering leader, the charming bad boy, the sensitive androgynous target, the internally tortured bully, and so on. These figures are swimming in that grey realm between loss of innocence and coming of age. They also, on a secondary level, resonate with the assortment of avatars in contemporary video games, which are becoming more and more realistic as technology progresses.

By splicing bits of fiction together, I encourage story telling and trigger the viewer's imagination. The sleek compositing effects of

the computer, where real and unreal are seamlessly blended, act as a metaphor for the complex ambiguities surrounding our choices, particularly in this new digital age, where new strains have been put on the human psyche. Entities that are created through the culture of the computer are taking on a whole new meaning as "real" and "imaginary" step onto the same plane.

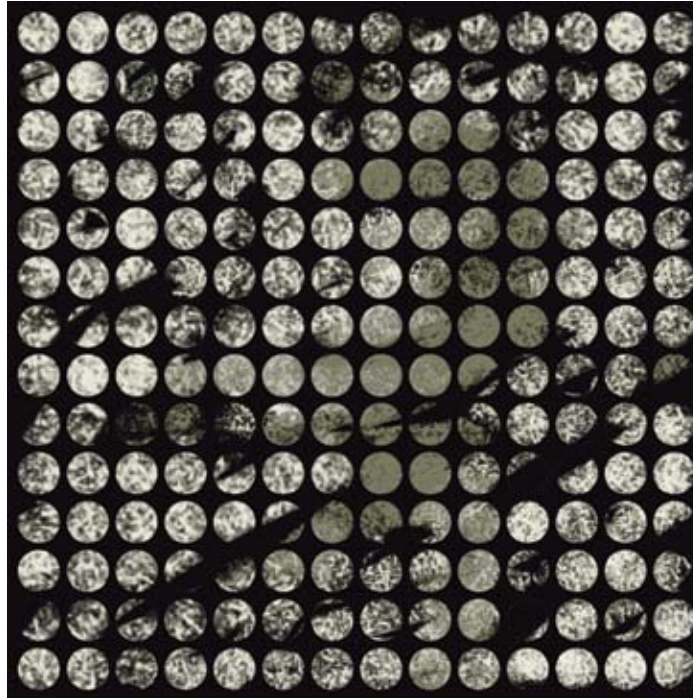
## TECHNICAL STATEMENT

Davida Kidd uses her own photography, which is then taken into Photoshop. Using a minimum number of effects and relying on mostly drawing "photographically," she then seamlessly blends several components from various images into one. She asks the viewer to question what has been created for the camera, what has been created to be scanned, and what has been created within the software itself. Initially, various components of the image are documented from different and very disjunct documentary points of view: camera lens, scanner bed, human eye. The images result in a metaphor for how the brain works. Images that we see and images that we remember are not distinguished as different. What is real? What isn't?

**Hye Kyung Kim**  
 Kyung Hee University  
 1723 Juniper Drive, Apartment #166  
 Bowling Green, Ohio 43402 USA

khkyung7@naver.com

# Hye Kyung Kim



*Meditation*  
 25 inches x 25 inches  
 2D imaging, printed image on Hanji

## ARTIST STATEMENT

The aim of my work is to combine digital technology with analog thought process. I created the images on the computer in an attempt to express something about the human experience that anyone could relate to. Various modes of thinking float around our daily lives. This work tries to express our own inner world which is separated from conscious thought in the actual world. I would also like to express something that breaks away from the typical computer graphics image and moves it beyond the technology. I experimented with brush strokes to create abstract images from those ideas. *Meditation* is one of those abstract images and is printed on Korean traditional paper called Hanji.

## TECHNICAL STATEMENT

The concept of *Meditation* is very Korean, especially the fact that the image is printed on Hanji. This is very challenging in digital art. The brush strokes, created in Photoshop, represent a variety of techniques. This work will help people understand Korean emotions and culture through digital art.

# Sachiko Kodama

## Sachiko Kodama

The University of Electro-Communications  
1-5-1, Chofugaoka  
Chofu City, Tokyo 182-8585 Japan  
kodama@hc.uec.ac.jp  
[www.kodama.hc.uec.ac.jp/protrudeflow/works/008/index.html](http://www.kodama.hc.uec.ac.jp/protrudeflow/works/008/index.html)

Makoto Tanabe  
Satoru Saito  
Kingo Arakawa



*MorphoTower/Spiral Swirl*  
16 inches x 12 inches x 12 inches  
Dynamic sculpture, magnetic fluid and iron

## ARTIST STATEMENT

This work is conceptualized as an “organic tower,” that responds dynamically to its magnetic environment. When there is no magnetic field, the shape of the tower appears as a simple spiral, like a drill bit. But when the magnetic field around the tower is strengthened, spikes of magnetic fluid are carried from the bottom plate, and move up, circling around the edge of the iron spiral shape. At the same time, the tower’s surface dynamically morphs into a variety of textures ranging from spiky or hairy to mere goose-bumps. The magnetic fluid, which has a smooth black surface that seems to draw you in, reaches the top of the tower, spreading like a fractal, defying gravity.

People can interact with this work by making sounds; they can change the tower’s texture by creating magnetic fields by voice, engaging them directly with the artwork. By fusing physical materials, phenomena and digital technology, I attempted to create an exciting and inspiring art for people to enjoy.

## TECHNICAL STATEMENT

The body of the *MorphoTower* was made with a new technique called magnetic-fluid sculpture, which enables the artist to create dynamic sculptures with fluid materials. This technique extends and sculpts the iron core of an electro-magnet. The magnetic fluid covers the sculpted surface of a three-dimensional iron shape that was made with an electronic NC lathe.

The movement of the spikes in the fluid is controlled dynamically on the surface by adjusting the power of the electro-magnet. The shape of the iron body is helical so the fluid can move to the top of the helical tower when the magnetic field is strong enough.

A microphone captures real-time environmental sound, and a computer analyzes the level and modifies the power of the electro-magnet accordingly. There are two phases to the magnetic-power control process: one controls the position of the fluid, and the other vibrates the spikes according to the sound input.

As a result, the fluid covers the sculpture’s surface, and its spikes vibrate like a creature responding to sound.



**Viktor Koen**  
 Independent Artist  
 310 E 23rd Street, #10A  
 New York, New York 10010 USA

viktor@viktorkoen.com  
 www.viktorkoen.com

# Viktor Koen



*Dark Peculiar Toy No.03*  
 13 inches x 13 inches  
 2D imaging



*Dark Peculiar Toy No.04*  
 13 inches x 13 inches  
 2D imaging



*Dark Peculiar Toy No.19*  
 13 inches x 13 inches  
 2D imaging



*Dark Peculiar Toy No.21*  
 13 inches x 13 inches  
 2D imaging

## ARTIST STATEMENT

*Dark Peculiar Toys* is an assembly experiment in which philosophies of what a toy is and is supposed to do differ and collide. These collisions deface, break, or de-construct the toys into piles of raw materials waiting to be re-constructed in alternative ways, without instructions or any memory of their origins and function, and with no consideration of the original creator's intentions. Curiously, they break down not only to their essential parts, but also to details of character and spirit (if they ever possessed any). They only retain colors, shapes, and the scars inflicted by their previous owners – scars that separate them from their assembly-line identical multiples and make them one of a kind.

These tragic action figures are stuck between their new condition and the reality of their past. They link older and contemporary prototypes of heroism or role playing by combining traditional symbols in unorthodox ways. Their appeal lies solely in the tendency children (of any age) have to cannibalize existing objects in order to fuse their own. These creations are at odds with their carefully planned origins, and they break gender and age molds by defying experts on children, focus groups, and sales projections. The newly assembled toys, though somewhat dramatic and traumatic due to their darkness, evoke our emotions and form a connection with us, by taking a place in our personal memories. Not in a "lost childhood blah, blah, blah" way, but as images that communicate nostalgia and joy, or the nostalgia of joy.

These emotions also dominated the process of putting them together. I photographed toys and objects that I've collected through the years and my travels, some of them part of my personal childhood, and then mixed and matched them for hours. While this was a different form of play, the magic was the same.

## TECHNICAL STATEMENT

The digital, on-screen process of creating the images follows loose pencil studies that determine concepts and compositions or hours of mixing and matching parts and objects. Adobe Photoshop 6.0 was used to connect and manipulate old and new sources into seamless visuals. Only the basic set of software filters and effects was utilized on the multi-layered files, some colored artificially and others retaining their original colors. Most shadowing was done from scratch in order to control the lighting (since the different parts were photographed under equally different light conditions, indoors and outdoors) and enhance three dimensionality (no 3D software is used at any point in the process).

The computer allows for transparent-layered results and incorporates photographic material (essential to creation of surreal, yet momentarily believable images). Digital photography has proven to be an invaluable asset by allowing easy capture of objects and textures for the compositions. The main advantage of working digitally is the freedom to constantly change and adjust any aspect of image making. The ability to combine different sources (digital or not) on one platform pushes the process in expressive and experimental directions.



Øyvind Kolås  
Gjøvik University College  
Postboks 191  
Teknologivegen 22  
2802 Gjøvik, Norway

pippin@gimp.org  
pippin.gimp.org

# Øyvind Kolås



*Nå av da (Now by Then)*  
10 feet x 10 feet x 20 feet  
Interactive video installation using custom software

## ARTIST STATEMENT

The present is a product of the past. This idea is illustrated by an enchanted mirror that reflects the present as a multifaceted image mosaic made from images captured in the past.

The installation is continuously evolving. The set of images used to construct the current experience is composed of earlier encounters. This makes every participant a contributor to future experiences.

## TECHNICAL STATEMENT

The installation consists of a projector, a camera, a computer, and software that maintains the puzzled mosaic.

When the software detects motion in the scene (monitored by the camera), an image is stored in a database and split into rectangular subimages. A list of the subimages that have changed since the last generated mosaic is created. The database is then asked for a list of full-scene images that correspond to the changed subimages. To further speed up queries, infrequently used images are periodically purged from the database.

# Mark Koven

**Mark Koven**  
University of South Florida  
4202 East Fowler Avenue, FAH 110  
Tampa, Florida 33620 USA

markkoven@sprintpcs.com  
[www.markkoven.net/files/Gape.html](http://www.markkoven.net/files/Gape.html)



*Female Gape #3*  
70 inches x 43 inches x 10 inches  
3D animated lenticular photography on aluminum

## ARTIST STATEMENT

Employing tactical media, I work to create situations where the viewer is unknowingly shifted from observer to participant. Inclusion of individuals and assimilation of the audience are meant to create both a personal and group experience where distance between art and audience is physically as well as metaphorically diminished. Additionally, viewer immersion is meant to affect perspective and destabilize preconceived expectations of social mores, political structure, and power. Using media ranging from photography to sound, film and video, sculpture, and installation, my work envelops the viewer into an experiential space where interaction becomes unavoidable. The result often removes participants' control. They are forced to make choices: the people in the know are put in positions of power and forced to choose among helping others, doing nothing, or taking advantage of their positions. Content often incorporates concepts of world events in combination with aspects of human interaction ranging from family, politics, and religion to simple daily activities such as eating, working, and playing. By incorporating time-based media, sound, and performance, I examine the nuances of human reaction, communication, experience, and memory.

This series is intended to create both a voluntary and involuntary interaction on the part of the viewer. The voluntary aspect usually takes the form of swaying, bobbing, and walking back and forth in front of the piece in attempts to animate it, while the involuntary aspect of the interaction becomes, for example, capturing a viewer's yawn.

## TECHNICAL STATEMENT

Employing 3D animated lenticular photography, this piece utilizes computer software to register and interlace sequential stills. Once the multiple images, numbering anywhere from four to 60, have been processed, they are output using inkjet printing. These are then adhered to a sheet of multiple lenses to create the 3D and animated effect. The final assembly is laminated to the convex aluminum sheet.

# Dorothy Krause

**Dorothy Krause**  
Viewpoint Studio  
32 Nathaniel Way  
P. O. Box 421  
Marshfield Hills, Massachusetts 02051  
USA

DotKrause@DotKrause.com  
www.DotKrause.com



*Village*  
24 inches x 24 inches  
Digital mixed media



*Margoa*  
24 inches x 24 inches  
Digital mixed media

## ARTIST STATEMENT

I am a painter by training and collage-maker by nature who began my experimental printmaking with reprographic machines. Since being introduced to computers in the late 1960s while working on my doctorate at Pennsylvania State University, I have combined traditional and digital media. My work includes large-scale mixed-media pieces, artist books, and book-like objects that bridge between these two forms. It embeds archetypal symbols and fragments of image and text in multiple layers of texture and meaning. It combines the humblest of materials (plaster, tar, wax and pigment) with the latest in technology to evoke the past and herald the future. My art-making is an integrated mode of inquiry that links concept and media in an ongoing dialogue, a visible means of exploring meaning.

*Village* and *Margoa* are components of *Passages*, a series that includes doors, windows, tunnels, openings, corridors. The term also encompasses movement from one place to another, the transition from one condition or state to another, and the right or permission to come and go freely. We speak of passing time, safe passage, and "passing over" or dying. These images reference those varied meanings as well the barriers that prevent us from coming and going at will.

## TECHNICAL STATEMENT

*Village* and *Margoa* are mixed media assemblages. The digital files were printed onto clear film, which were used as templates for building assemblages. In *Village*, for example, a small piece of aluminum (positioned to correspond to a window in the image file), was placed under a recycled brass grid which was nailed to wood and washed with plaster. The assemblage was used as the substrate onto which the image file was printed using a Durst UV-cured flatbed printer.

With UV-curing flatbed printers, the ability to print on virtually any dimensional surface without pre-coating offers an enormous range of possibilities. Prints are equally good on surfaces with combinations of porous and nonporous or matte and shiny materials, and UV-cured inks sit on the surface of the print with the physicality of paint or traditional printmaking inks.

# Kumiko Kushiyaama

**Kumiko Kushiyaama**  
PRESTO/JST  
518-25, Nikaidou  
Kamakura 248-0002 Japan  
kushi@ea.mbn.or.jp

Momoko Inose  
Rie Yokomatsu  
Kinya Fujita  
Toshiie Kitazawa  
Mototsugu Tamura  
Shinji Sasada



*Thermoesthesia*  
27 inches x 39 inches x 31.5 inches  
Interactive art object, original thermal sense display

## ARTIST STATEMENT

This new temperature display technology is designed to support touch expression in the emerging computing-ubiquitous, information-intensive society. When a person touches the soft interface in an architectural environment, the system reveals information that is helpful in everyday activities.

## TECHNICAL STATEMENT

The basic concept of the project is to add actual thermal properties, such as cool or warm, to each part of the images projected on a screen. We used 24 Peltier modules for the thermal display. Each module consists of stacked two 40 mm x 40 mm Peltier devices. The upper surface of each module, which is touched by users, is cooled or warmed by switching the current of the Peltier modules with a PC and electric switching circuits. The thermal display range of the device is from 5 to 45 degrees C.

Furthermore, the photo-sensor based touch-panel system uses infrared LEDs, installed 2 mm above the screen, to detect hand positions. This system allows users to interact with the images that have thermal properties.

The real-time interactive program was developed using C and the OpenGL library. Nakaya diagram was utilized to generate various forms of snow crystals, in accordance with air temperature and humidity.



**Shawn Lawson**  
 Rensselaer Polytechnic Institute  
 411 Spring Avenue  
 Troy, New York 12180 USA

lawsos2@rpi.edu

# Shawn Lawson



*Ray Tracings of the In Between: Living Space*  
 18 inches x 24 inches x 4 inches  
 Light box



*Ray Tracings of the In Between: Tractor Space*  
 18 inches x 24 inches x 4 inches  
 Light box

## ARTIST STATEMENT

The cluttered spaces communicate both new beginnings and forgotten endings. The tracings left from the laser enhance the feeling of a slipping memory or active imagination. When the spaces are being captured by the camera in the darkness, they can exist as both. A duality that can not be seen. When brought into the anaglyphic format, they leap out of the two-dimensional plane. Small differences in the laser-tracing process that are perceived by the left and right eyes cause the images to shimmer and feel alive. Encapsulated by the dimensionality, viewers negotiate their own memories and imagination within the spaces. Who lived here, who will live here? The space becomes a transition between ending and beginning, old and new.

## TECHNICAL STATEMENT

A digital camera is set for long exposure in a completely darkened environment. Once the camera shutter is opened, a red laser is used to illuminate the scene one line at a time. When the image is completely illuminated, the camera shutter is closed. The camera is moved an eye-width to either side and the entire image-capturing process is repeated. Both images are taken from the camera into Photoshop. The red channel of one image is placed into the green and blue channels of the other image, creating a correct anaglyphic image, such as those used in 1950s 3D films and comic books. Then alignment, transformations, leveling, and cropping are performed, and the image is printed. Red/cyan glasses are worn to perceive the depth from the original photos. Due to the colored filters, the left eye sees only red, and the right eye sees only cyan. The difference in these color images causes the brain to interpret them as having depth.



# Barbara Layne

**Barbara Layne**  
 Sub Tela Studio, Hexagram  
 Concordia University, EV2-823  
 1515 Ste. Catherine West  
 Montréal, Québec H3G 2W1 Canada  
 layne@alcor.concordia.ca

Research team members: Diane  
 Morin and Hesam Khoshnevis



*Untitled Wall Hanging*  
 9 feet x 34 inches  
 Handwoven fabric with LEDs and other electronic components woven in

## ARTIST STATEMENT

Handwoven on a floor loom, *Untitled Wall Hanging* builds on a long tradition of textiles and technological innovation. By weaving electronic components into a large, flexible circuit, the fabric extends the ways in which cloth is able to communicate. Textiles have an extraordinary ability to impart meaning through a material language of structure, design, fibre substances, and the history of wear. The multiplicity of readings can include social, political, emotional, and intellectual content, which can become even more complex as environmental and human experience invest the surface with evidence of use.

*Untitled Wall Hanging* consciously considers cloth as an evolving form of communication. An ultrasonic sensor responds to the location of the viewer, triggering an LED display that presents images that shift between traditional weave structures and narratives related to the venues the piece has visited. The texts build over time, making reference to the site of production in Montréal, to its gallery installation in Lincolnshire, England (where it was first displayed in a former seed warehouse) and its most recent iteration, the exhibition at SIGGRAPH 2006 in Boston. This integrated and animated surface triggers both an immediate change, and at the same time recalls its own personal history, opening a complex space for multiple interpretations.

## TECHNICAL STATEMENT

The fabric is made of black linen yarns, woven in a traditional 2/2 twill pattern to give the fabric a soft drape. Insulated wires are woven alongside the yarns to create a flexible circuit. At times the warp yarns (lengthwise) change position with the weft yarns (crosswise) to follow the schematic diagram of the complex circuit. A metal stud is added at each 90 degree shift of direction. Water weights are used as a "low'tech" solution to adjusting tension temporarily on individual threads and cables as needed.

All digital components were incorporated during the weaving process, using wire wrapping to make connections. An ultrasonic sensor detects the distance of the viewer and triggers changing messages through the woven LED array. The hanging is powered with a 5-volt adaptor that is plugged into the wall.

**Jae Min Lee**

The School of the Art Institute of Chicago  
175 North Harbor Drive, Room 1514  
Chicago, Illinois 60601 USA

ljm4939@hotmail.com

# Jae Min Lee



*Water Lights*  
10 feet x 8 feet x 10 feet  
Lighting and electronic installation

## ARTIST STATEMENT

I use nature as an interactive medium and agent to control my installations. My projects look for a new relationship among nature, art, and technology. How we use technology to interact with nature is a subject of great concern to me. In my work, I allow nature to literally control my installations, and by looking at the visualization of the movement of natural surroundings, viewers have an opportunity to achieve a closer connection with nature.

One rainy day, while watching the water flowing endlessly down the window, I thought how interesting it would be to express the movement and the shape of the water flowing past with light. The result is this interactive installation. When viewers approach the work, water flows over light-emitting diodes (LEDs), and the lights come on when the water touches an LED. The intensity of the LEDs is regulated by the quantity of water running over them. In addition, viewers can participate by sprinkling water on the surface of the installation, which then turns on the lights.

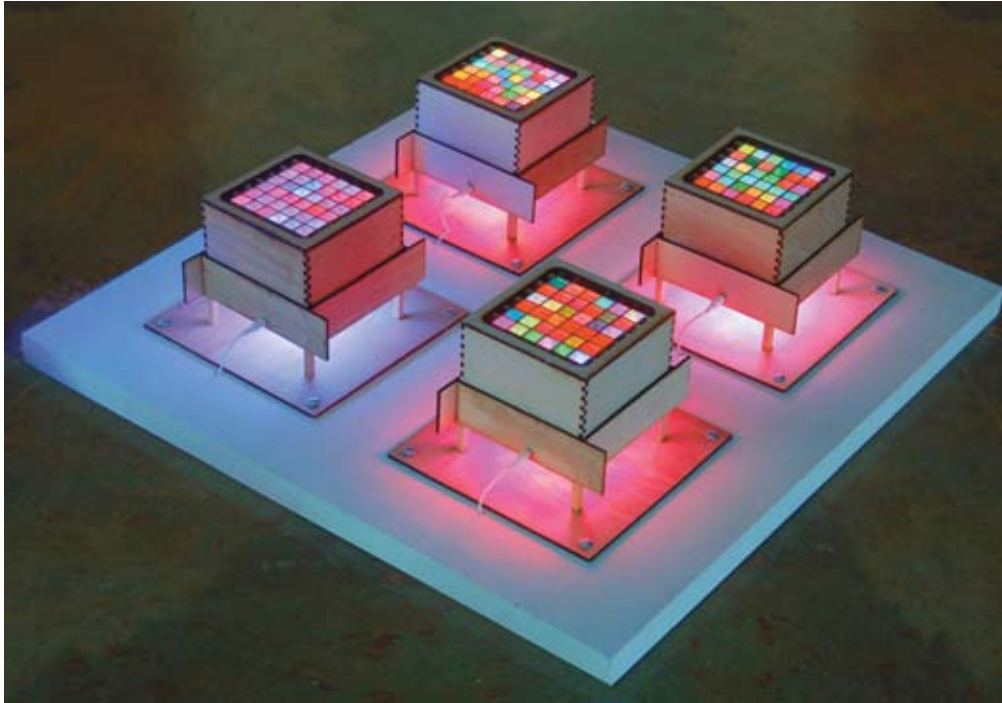
## TECHNICAL STATEMENT

*Water Lights* was created using the following: Light-emitting diodes (LED, 210 pieces), microcontroller, transistor, and pyroelectric infrared detector. Although people usually turn on lights with a switch or a sensor, in this installation, lights are turned on by water, which gives viewers a new experience.

**Patrick Lichty**  
Bowling Green State University  
1556 Clough Street, #28  
Bowling Green, Ohio 43403 USA

voyd@voyd.com  
www.voyd.com

# Patrick Lichty



*Pixelboxes*  
12 inches x 38 inches x 38 inches  
Laser-cut wood, LEDs, microcontrollers

## ARTIST STATEMENT

*Pixelboxes* is deceptively simple in appearance, but is an experiment in emergent behavior. The piece consists of a grid of 36 color-changing LEDs that contain very small microprocessors. When powered up simultaneously, the LEDs begin as all red. But because of miniscule differences in the manufacturing process, timing changes occur, and the grid of LEDs create patterns of red, green, and blue. The result is a study in complex interactions shown as a visual display.

Conceptually, *Pixelboxes* creates “characters” or “calligrams” (to quote Foucault) that hint at the legible symbol, but never quite get there. *Pixelboxes* also is informed by John Simon’s “Every Icon” work, which cycles through every possibility in a 32 x 32 pixel grid, creating every icon imaginable.

## TECHNICAL STATEMENT

*Pixelboxes* consists of a laser-cut sculpture and lattice that holds 36 color-changing LEDs, each section representing a “pixel” in the 6 x 6 icon. While each of the LEDs has a preset pattern of sequential flashes, differences in the processors inside the RGB LED create slight differences in timing. In addition, the different power requirements of the red, green, and blue LEDs cause further instability in the timing of the circuit.

**Jeff Lieberman**  
 Massachusetts Institute of Technology  
 50 Massachusetts Avenue, #101  
 Cambridge, Massachusetts 2139 USA

lieb@alum.mit.edu  
[www.bea.st/sight/slink/](http://www.bea.st/sight/slink/)

# Jeff Lieberman



*Slink*  
 4 feet x 4 feet x 1 foot  
 Sculpture, robotic system with associated electronics

## ARTIST STATEMENT

I am interested in physical phenomena and human perception. In this piece, I explore the intersections of three different resonant systems. The first is mechanically resonant: the motor and the extension spring are tuned to resonate with each other. The second system is electrical: 2000 LEDs strobing at the resonant frequency of the spring. The third is the visual phenomenon of light resonating in tune with the motion of an object, which, through a human observer, is perceived initially as no motion at all.

The reversal of the strobing effect is interesting. Normally, strobing is used to take still images and make them appear as a moving object, such as in a movie reel. This is known as the “beta phenomenon” and is a fundamentally human perceptual effect. A computer can recognize every frame as a frozen object in its own right, but we mentally connect distinct elements together to create motion.

In order to reverse this effect, I use a rapidly moving object and initially strobe it to make it appear frozen in space. Why? Strobing a rapidly moving object can make it appear to be moving in almost any way one desires. Physics appears broken. In this case the climax becomes the fact that the strobes, occurring at different times in

different locations on the spring, can make the spring appear to break into 12 parts and float separately in midair. Usually people do not initially believe that this is a physical object. Their perception of the world around them is altered.

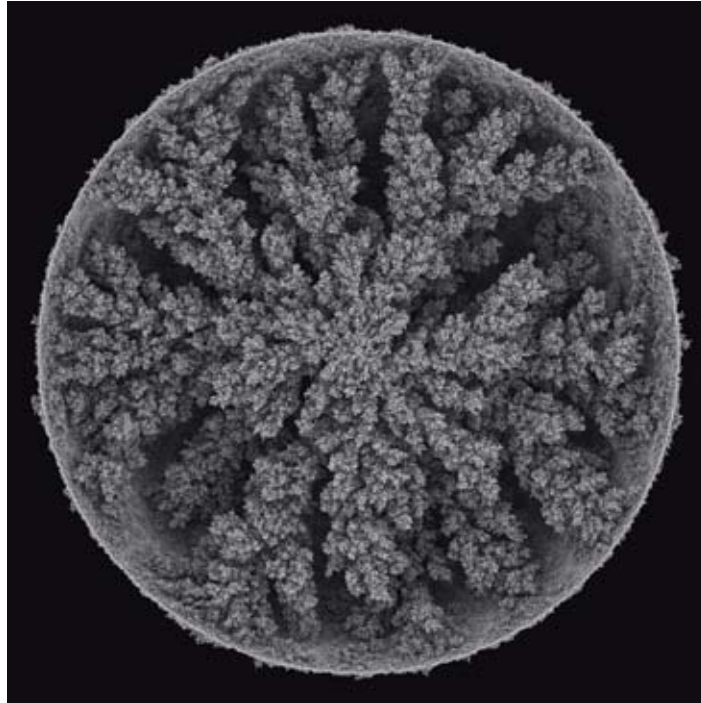
## TECHNICAL STATEMENT

A custom voice-coil actuator vibrates linearly at roughly 50 Hz, at the resonance frequency of the die springs coupled with the moving motor mass. This shakes a three-foot extension spring, tuned to match the voice-coil frequency for its fifth resonant mode. Twelve banks of 165 LEDs each strobe behind the spring, through a translucent acrylic window, matching the vibrational frequency and running at roughly 1% duty cycle, allowing the viewer to see the spring in a suspended or frozen state. Changing the relative strobe phase among the 12 banks of LEDs creates a positioning system for each segment of the spring, which allows the spring to be broken into segments and seemingly moved independently of the physics governing the original vibration. Various effects are explored from this initial thought.

**Andy Lomas**  
 Framestore CFC  
 9 Noel Street  
 London W1F 8GF United Kingdom

andylomas@yahoo.com  
[www.andylomas.com](http://www.andylomas.com)

# Andy Lomas



*Aggregation 22*  
 38 inches x 38 inches  
 Algorithmic image

## ARTIST STATEMENT

This study is driven by a desire to explore the aesthetic and incredible intricacy of organic forms. The generated structures are created using a process of digitally simulated growth by aggregation. These cross-sectional views recall the internally segmented, cellular structures of biological systems resulting in strong echoes of electron microscopy and Ernst Haeckel's images of natural forms.

Complex relationships between symmetry and asymmetry exist on many levels. The simple rules used to generate the simulations are inherently symmetrical in nature, but this symmetry is spontaneously broken by random processes in the growth algorithms. Radically different forms can be created by introducing small modifications to the generation rules and biases to the ways particles flow before they deposit on the aggregated structure. The intricate sculptural shapes created have what appear to be large-scale symmetries and similarities, but when they are examined in detail, it is apparent that no part is ever repeated, and nothing on a detailed level is in fact symmetric.

## TECHNICAL STATEMENT

The base algorithms used to generate the forms are variations on Diffusion Limited Aggregation. Different structures are produced by introducing small biases and changes to the rules for particle emission, motion, and deposition. The growth-like nature of the process, repeatedly aggregating on top of the currently deposited system, produces reinforcement of deviations caused by small forces applied to the undeposited particles as they randomly move. This means that small biases to the rules and conditions for growth can produce great changes in the finally created form.

The rendered structures are implicit surfaces composed of many millions of particles. Simulations can run from many days to weeks, with the final generated forms typically having between 30 and 50 million particle primitives. All the software used to simulate the structures and render the final images was written by the artist in Visual C++.



**Santiago Lombeyda**  
 California Institute of Technology  
 1200 East California Boulevard  
 MC 158-79  
 Pasadena, California 91101 USA

slombey@caltech.edu

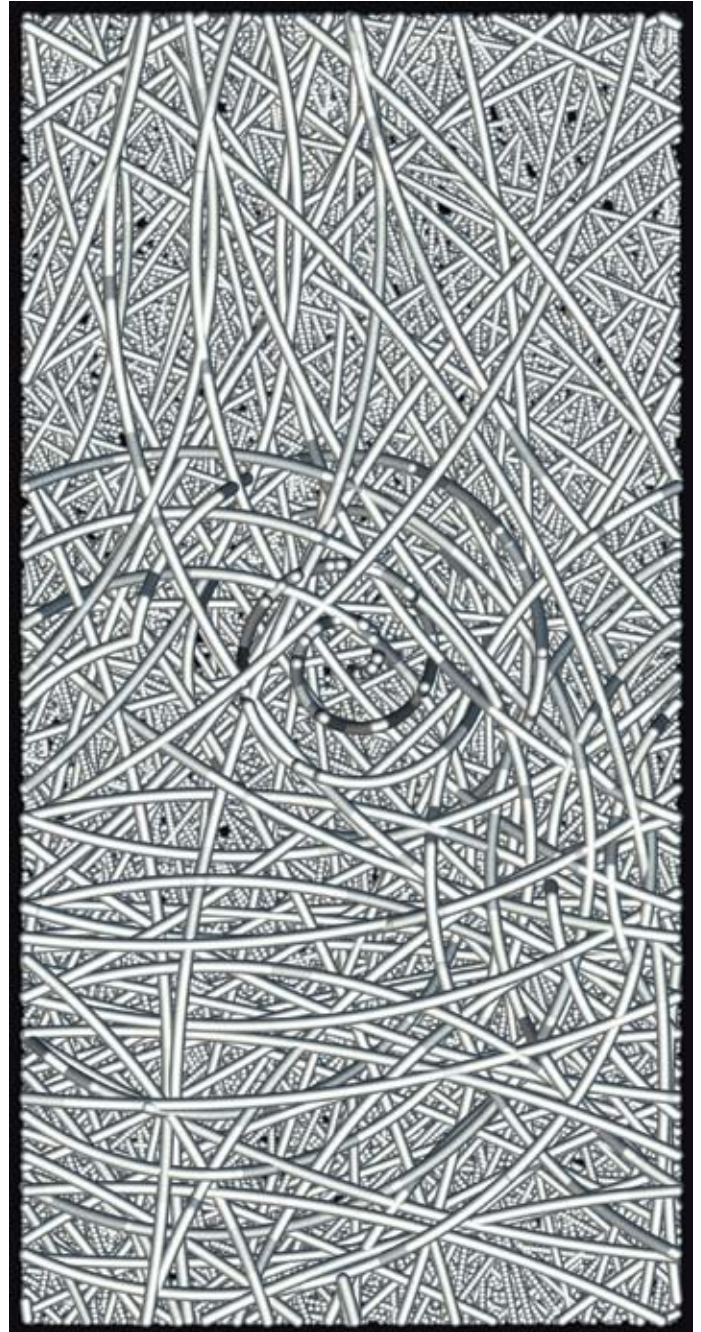
# Santiago Lombeyda

## ARTIST STATEMENT

There is a duality in nature between waves and particles, between the continuous and the discrete. This artwork presents a carefully crafted, mathematically based, drawn spiral, using a continuous sequence of discrete rendered spheres. The artwork represents the duality between order and chaos. It allows the viewers to either emotionally or intellectually focus on the mathematically generated spiral line, or rather to focus on the mania of the space as a whole.

## TECHNICAL STATEMENT

A small set of spheres was pre-rendered using a purely algorithmic/parametric approach in order to serve as atomic elements for the rendering. Then the spirals were drawn using these pre-rendered maps as 3D sprites on a 2D canvas with a depth mask. This allows lighting conditions to be captured on the original rendered spheres and then simply reused throughout the canvas, in a fast, sprite-like sequencing of the 3D elements.



*Emergence: Order*  
 48 inches x 24 inches  
 Algorithmic image

**Dan Lu**  
Independent Artist  
8564 Lake Clearwater Lane  
Indianapolis, Indiana 46240 USA

lu.160@osu.edu

# Dan Lu



*Transition I*  
14 inches x 14 inches  
3D-modeled image



*Transition III*  
14 inches x 14 inches  
3D-modeled image

## ARTIST STATEMENT

Nature forms various patterns and states. Tremendous reactions have been involved in the natural pattern transformations. The primary goal of *Transition* is to affect this cognition through presentation of temporal patterns built with procedural logic and geometry.

## TECHNICAL STATEMENT

These images were created with Alias Maya 3D.

# Michael Takeo Magruder

**Michael Takeo Magruder**  
Independent Artist  
31A Jobs Lane  
Coventry, CV4 9DZ United Kingdom

m@takeo.org  
www.takeo.org/nspace/ns015



*data\_cosm*  
Web-based: HTML + VRML + Flash7 + Java

## ARTIST STATEMENT

*Data\_cosm* is an examination of the chronological archives generated by news media and of the dynamic information structures that mediate this process. Each day, the artwork deconstructs and reassembles the BBC's internet news service into a continuously evolving 3D realm populated with multiple viewpoints. In the physical gallery space, the construct appears as a "painterly" expanse, whilst online, the visualization of the artwork is that of a tactile "sculptural" form.

## TECHNICAL STATEMENT

The artwork is created through a hybridization of HTML, VRML, Flash, and Java code-sets. The core "world" is defined via a morphing VRML structure with embedded Flash textures. Both the VRML and Flash elements communicate via client-side scripting (JavaScript and ActionScript respectively) to a continuously expanding server-side database (located on [www.takeo.org](http://www.takeo.org)). This evolving dataset is generated by a Java program that deconstructs the BBC's internet news service ([www.bbc.co.uk](http://www.bbc.co.uk)) in realtime. These data are pulled into the 3D skeletal framework and the final "world" is thus assembled.

## SUPPORTED BY

Arts Council England and King's Visualisation Lab, Centre for Computing in the Humanities, King's College London



**Jessica Maloney**  
 Ashland University  
 Art Department 401 College Ave.  
 Ashland, Ohio 44805 USA

mjessica3@hotmail.com

# Jessica Maloney



*Exponential Growth*  
 38.5 inches x 38.5 inches  
 Mixed media, printed digital images, beeswax, wood panel

## ARTIST STATEMENT

*Exponential Growth* references growth that is continuous over a period of time. The map represents a layer of growth, particularly growth and expansion of the human population in and around Tucson, Arizona. This area is represented because of its rapidly expanding population and because of its rich physical beauty and spiritual history. The landscape possesses a particular mystique all its own, which is quite awe-inspiring.

Maps are used to clarify and document the land, but if viewed as an abstract pattern, the organic lines of the map reference the natural growth and energy that exists in nature. Energy and growth are intrinsically tied, and as the human population grows and expands, so too does the energy in the space the humans occupy. What makes this concept so intriguing is that energy is the potential for action, and while some forms of energy can be mapped out and quantified, the potential of other forms, such as the spiritual energy of a person or place, cannot be so easily decoded.

## TECHNICAL STATEMENT

This mixed-media piece combines both digital and traditional forms of art. The digital art is comprised of three separate digital prints, all created in Adobe Photoshop 7.0. The images on the lower part of the piece began as scans of photographs the artist took of cotton fields in Arizona. The photographs were then pieced together and combined with scans of old wood to create the final images. The prints were done on a heavy watercolor paper. The digital print of the map that makes up the majority of *Exponential Growth* is a scan of a map of Arizona, which was then cropped and manipulated before the final print. The print was produced by an HP5500 large-format printer on matte photographic paper. After the prints were done, they were attached to a wood panel using an encaustic process. Beeswax both protects the prints and adds a luminous texture to the surface.

# Dennis H. Miller

Dennis H. Miller  
Northeastern University  
360 Huntington Avenue  
Boston, Massachusetts 02115 USA

dhmiller@comcast.net  
www.dennismiller.neu.edu



*Introspection*  
23 inches x 31 inches  
3D-modeled image

## ARTIST STATEMENT

My work attempts to bring principles of organization and development drawn from musical composition into the visual world. I am particularly interested in creating vividly colored images that display repeated patterns of movement, similar to the rhythmic patterns often found in music. These patterns coalesce into recognizable shapes and forms within the context of a virtual world, where all cues as to size and scale are missing and must be inferred by the viewer. This approach leaves the works open to the widest possible interpretation, which is a main goal of my work.

## TECHNICAL STATEMENT

Dennis H. Miller uses a variety of methods to create his 3D images. His works employ two primary tools: POV-Ray, a public-domain image compiler, and Cinema 4D, a commercial 3D modeling and animation program. In many of his works, Miller sets in motion processes that result in the generation of basic forms that show repetition in their structure. From these raw images, Miller carefully composes an environment and context, then explores various color, lighting, and textural options.



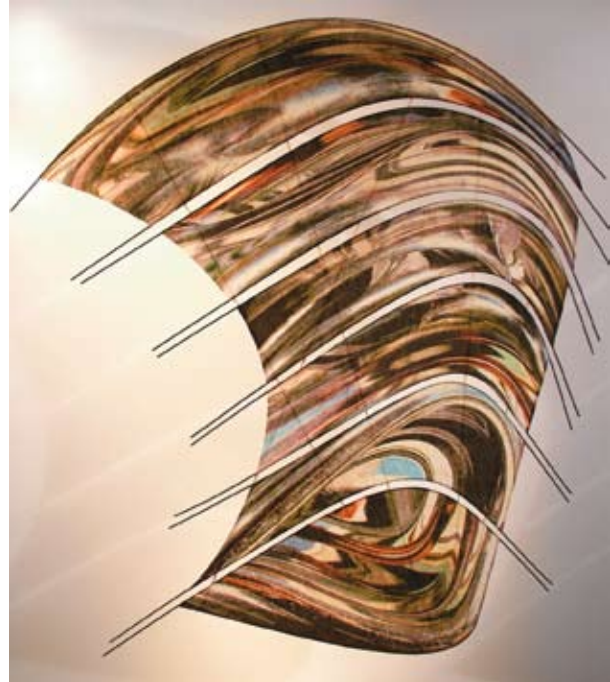
# Mark Millstein

**Mark Millstein**  
University of Massachusetts Dartmouth  
Design Department  
285 Old Westport Road  
North Dartmouth, Massachusetts 02747  
USA

[mmillstein@umassd.edu](mailto:mmillstein@umassd.edu)  
[www.markmillstein.com](http://www.markmillstein.com)



*Kite Form: Laminate*  
58 inches x 36 inches  
2D imaging, inkjet print on kinwashi, bamboo



*Kite Form: Chrome Bowl*  
46 inches x 44 inches  
2D imaging, inkjet print on kinwashi, bamboo

## ARTIST STATEMENT

These kite forms are from a continuing series that uses warping and distortion to explore symmetry, form, and (more recently) photographic illusion. In this recent set, I am trying to broaden my use of collected photographs as material for surface design. Images are accrued from objects and materials set up in a familiar environment.

I am also interested in the growing fusion of new technology with traditional materials. The form of each kite is developed by manipulating and morphing a version of a more traditional shape, which is built and placed in imaginary space. With software tools, it is broken into sails, then tilted, inflated, and skewed as if it were affected by flight and wind. The frozen form itself speaks of a three-dimensional depth, and it is wrapped with imagery that suggests additional perspectives on volume, construction, or reflection, for example.

At close range, it is easier to see the inherent dichotomy of image and surface. The images are detailed and sharp. The primitive paper is rough and fibrous. Additional surface reflection, line, and gesture are imposed by the content of the material. Furthermore, the practice of breaking out of the frame and across adventurous materials always inspires further investigations of space, form, and realistic manipulation.

## TECHNICAL STATEMENT

These kite forms are inkjet prints on paper. Images are digital photographs of gathered and set-up objects. The camera is a Canon EOS Rebel XT. The computer is a PowerBook G4. Image design and editing software is Adobe Photoshop CS2. The printer is an Epson Stylus Pro 4000 with Ultrachrome pigmented inks. The paper is Japanese kinwashi pre-coated with Ink-Aid Type II, and it is backed and supported with pigment-dyed matchstick bamboo.

# Marte Newcombe

**Marte Newcombe**  
NASA  
210 W. Windsor Ave.  
Alexandria, Virginia 22301 USA  
etramnew@yahoo.com

Greg Shirah



*Soothsayers*  
20 inches x 26 inches  
2D imaging

## ARTIST STATEMENT

The sources for my digital work begin as three-dimensional welded sculptures that I create from found metal objects such as machine parts and tools. By assembling and welding these elements, I seek to create new forms that no longer serve their intended function but hint at the mechanics of our bodies and by extension, human emotions. It was of particular interest to combine the physical aspects of machines and tools (extensions of human engineering functions) with the intellectual aspects of the computer as a reference to the brain. In building sculptures, I strive to create new works by obfuscating some of my existing works, which provide feelings of both familiarity and strangeness.

The original source for *Soothsayers* was a welded metal sculpture called *Soothsayer* which I created as part of a series called *Alley Wishes*. The series was based loosely on a daring escape my father made from a POW camp in Germany during World War II. The sculptures depicted the characters he met on his way, some real and some imaginary. In the digital work, I created two additional characters based on the original and placed them in a hostile environment. I also used NASA satellite images and robotic parts.

## TECHNICAL STATEMENT

The image of the sculpture was scanned and then manipulated and reproduced in several iterations in Photoshop. Some images were satellite images and scientific diagrams from NASA, such as screen shots from a monitoring system in an old attached shuttle payload mission, including a fish-eye view out of the space shuttle cargo bay showing instrument fields of view and an ASCII text spacecraft telemetry screen. Several components were made by my collaborator, Greg Shirah, using mathematical algorithms. Mathematical functions were used to produce complex, intricate, organic-looking pieces that are abstract and yet familiar. Proceduralism derived from functions such as parametric and differential equations aids the generation of the gross shapes using custom-scripted form-generation code. Proceduralism also provides a means for generating fine detail and texture using genetic and fractal-based algorithms in the shader code.

# Masashi Nishimura

## Masashi Nishimura

Kyushu University, Genda Laboratory  
5-19-22-723, Takeshita, Hakata-ku, Fukuoka-shi, Fukuoka-ken  
Fukuoka 816-0095 Japan  
gentlemanatarms@msn.com



*THORN*  
23.386 inches x 16.535 inches  
Algorithmic image



*EVOLUTION*  
23.386 inches x 16.535 inches  
Algorithmic image

### ARTIST STATEMENT

It is well known that the law that made form appears in plants. It is a manifestation of the locus of growth and proof that life is present. It is the result of continuing evolution since life first appeared on earth, and it attracts other living things.

This work imitates and becomes part of the law of nature. Its essence is obtained from natural objects, but it creates nature artificially. It is a flower created from 0 and 1 that can be seen only on the screen and on paper. It is an imaginary plant. In nature, this plant does not exist and cannot exist.

### TECHNICAL STATEMENT

I create the form that I used for this image by describing procedures to transform using a vertex constituting a curve and a sphere, and applying it. I find a direction and size, length, the number of thorns that grow from a coordinate of a vertex of form. The form decided the textures and colors. Lighting became the artificial expression instead of textures like a plant.



# Jee Hyun Oh

**Jee Hyun Oh**  
 Ravensbourne College  
 of Design and Communication  
 Kent BR7 5SN  
 United Kingdom  
 jee@gorigardeners.net  
 www.two.gorigardeners.net

Allan Au  
 Erik Kearney  
 Performer: Christian Craft,  
 New York University



*GORI.Node Garden - Gardening Two*  
 10 feet x 10 feet x 20 feet  
 Interactive art installation and environment

## ARTIST STATEMENT

*GORI.Node Garden* is a physical and ambient data visualization as a network garden in which each plant is nourished by communication data. The network garden has plants with blossoms and roots that feed the data to the garden by “watering” when each plant vibrates, similar to how plants move in the wind.

Audiences are encouraged to participate by using instant messaging. They create communication data by “logging in,” “sending,” or “receiving” messages. When they log out, they are asked if they want to implement their chat communication in the garden. When the data enter the garden, a participant becomes a gardener and the data are recycled.

*GORI.Node Garden* proposes an alternative view of the network. “Gardening” emphasizes the intentional blurring of the distinctions between natural and man-made materials and “Gardening data” explains circular flow and the recycling of data.

Metaphors of nature are used here to represent that flow; chat communication is “a seed.” Identifying each plant with the seed is to “plant.” Pushing data into the installation from the database is “watering” and the database is a “water tin.”

## TECHNICAL STATEMENT

The project consists of three parts; computers used as terminals for running GORI instant messenger, a server computer running Flash Communication Server with PHP/MySQL, and an installation of electronic plants.

A plant called GORI consists of a steel disk on the top, an acrylic tube with light source inserted, a small control board connected with Ethernet cable, two motors, and related accessories; one motor is for shaking and the other for growth.

When participants move to the gardening stage, they see a Flash-based screen where the same layout of the garden is displayed. They can view the current status of each plant (how much it has grown, whose communication was planted first, and later, whose communication provided water, etc).

After the audience adds, deletes, or “waters” data, the updated information is stored in the database and sent to the installation in real time.



**Fernando Orellana**  
 Union College  
 1420 Stanford Street  
 Schenectady, New York 12308 USA

orellana@gmail.com  
[www.fernandoorellana.com](http://www.fernandoorellana.com)

# Fernando Orellana



*8520 S.W. 27th pl. v.2*  
 10 feet x 15 feet x 10 feet  
 Robotics and art

## ARTIST STATEMENT

Free will requires that we make continuous decisions on which directions our lives should take. As newborns, we learn how our bodies work, through countless unconscious decisions. As we age, this process continues, becoming more conscious and abstract. We spend our lives with this endless string of problems to solve, contemplating what action to take on each, evaluating the consequences from the decisions, and moving on to the next. The reconfigured Gemmy Corporation Dancing Hamster toys found in *8520 S.W. 27th pl.* symbolize this human decision-making and its inevitably limited consequences in our highly constrained existence.

## TECHNICAL STATEMENT

Each robot found in *8520 S.W. 27th pl.* has the ability to walk forward or backward on a track in its house. The robots have been programmed with a unique set of eight numbers. These numbers are used to determine what type of kinetic behavior the robots demonstrate. Some robots might appear to be confident in their decisions as they walk valiantly back and forth in the house, while others might exhibit what seems to be hesitation, staying in one place for a long period of time or fidgeting between decisions. In the end, the decision is random, but it serves as a metaphor for the overall redundancy of our decisions. The random seed used to generate the decision is extracted from a small infrared sensor installed at one end of each house. Like our decision process, the sensor allows for external forces to influence the outcome of each choice the robot makes. As people view the piece, they unknowingly influence how the robots behave and what they decide from one moment to the next. The robots pause at every new assessment, pulsing a small light in their heads, which makes them appear to be contemplating future action.

# Ricard Marxer Piñón

**Ricard Marxer Piñón**  
Independent Artist  
C/ Aragó, 433, 4t, 2a  
8013ó Barcelona, Spain

email@ricardmarxer.com  
www.caligraft.com



*Caligraft*  
Web-based art

## ARTIST STATEMENT

The main idea behind this work is to explore a new dimension of textual representation. I try to consider the different possibilities of glyphs: words and text representations and distributions in space and time.

My interest is motivated by the large amount of abstract generative work created with the apparition of computing. I approach the figurative-generative field by using calculus and computation. This allows discovery of the limits of perception and recognition in a superficial but fun and interactive way.

The choice of text as the target of study is due to the quantity of resources available, and the history of study and work behind it. Fonts are more available than other vector art, since they are almost a requirement for most computer uses.

The work promotes exploration of textual representation spaces at different levels. It also intends to motivate creation of public-license fonts and create new design guidelines for optimal font crafting. On the other hand, it pretends to challenge the already-existing font rendering systems to discover what advantages computation can provide in the field of text rendering.

## TECHNICAL STATEMENT

A very important and general objective of the work is to reduce the gap between people and technology, and this was an important constraint for selection of the technology used in the work. Because of this, Processing was chosen as the main platform for creating new computational calligraphies. It was also important in the decision to create a new library, called Geomerative, that would facilitate the tasks of handling vector shapes. The font format used as the seed for the calligraphies is the True Type standard, because of its widespread use and availability.

From another perspective, the work approaches the concept of generative art, challenging the restriction of the domain to abstract art. This raised many technical questions, such as how to apply typical generative-art paradigms to recognizable figures, which required using very simple artificial intelligence algorithms and dynamic systems to achieve the “organic” impression of the results.

# Cynthia Beth Rubin

**Cynthia Beth Rubin**  
C B Rubin Studio and  
Rhode Island School of Design  
94 Foster Street  
New Haven, Connecticut 06511 USA  
info@cbrubin.net

Holly Rushmeier, Yale University  
Bing Wang, Yale University



*Sand and Grasses1*  
20 inches x 26.5 inches  
3D modeled image

## ARTIST STATEMENT

Even as the computer is increasingly breaking down traditional barriers among visual media, the division between 2D and 3D remains. This collaborative series grew out of discussions between engineers and artists about how 3D software can be developed to facilitate the experimental processes of artists that lead to creative vision. Over the last 20 years, the development of 2D software has responded to the needs of artists who are not working with a single objective in mind, but who use the computer to interactively modify an evolving image, manipulating texture, scale, lighting, and other features as the composition comes into being.

Working with the spirit of nature was the point of departure for this work, providing a common experience that was not already culturally mediated. The sources for the imagery are both 2D and 3D. Textures taken from flat photographs of desert grasses and sand were transformed into repeating patterns and combined with realistic 3D scans of seashells, models previously paired with surfaces that rendered them as realistic virtual objects. Finally, the images were imported into 2D software for resolving compositional problems that were more easily addressed in the intuitive mode in current 2D software.

Ultimately, the imagery is about the ambiguity of nature, the sweeps of space, and the tactile appeal of physical objects.

## TECHNICAL STATEMENT

An innovative approach to 3D scanning formed the basis of this collaboration. A Shapegrabber triangulation laser scanner was used to scan seashells. The range images obtained for several views of each shell were merged into a single triangle mesh representing the object shape. As each of the shell shapes was scanned, an Olympus 8080 color camera, calibrated for the ShapeGrabber coordinate system, was used to take 2D color images of each view of the object under five small lights located at positions that were measured with the scanner coordinate system. The color images were then processed into maps of the diffuse portion of surface reflectance, the shell models were each partitioned into height fields, and the processed color images were projected onto the partitioned models to produce texture-mapped VRML models.

A VRML model of the shell was subsequently imported into Cinema4D, where the form was distorted, and the surface texture replaced by the textures of sand and grasses. The original mapped texture is still present in modifying the surface through bump-mapping and luminance. Initial compositing was done in Cinema 4D, including color modification and juxtaposing the model with a textured plane. Adobe Photoshop was used for final cropping, color balance, and additional layering.

**Mark Scheeff**  
 650 De Haro Street  
 San Francisco, California 94107 USA

mark@markscheeff.com  
[www.markscheeff.com/artwork/works.htm](http://www.markscheeff.com/artwork/works.htm)

# Mark Scheeff



*Want #1 (continuous)*  
 10 feet x 12 feet x 12 feet  
 Art installation

## ARTIST STATEMENT

If we look closely, we find that it is the nature of our minds to bring forth an endless stream of wanting (for love, health, possessions, security, etc.). *Want #1 (continuous)* is a mirror of this persistent mental process.

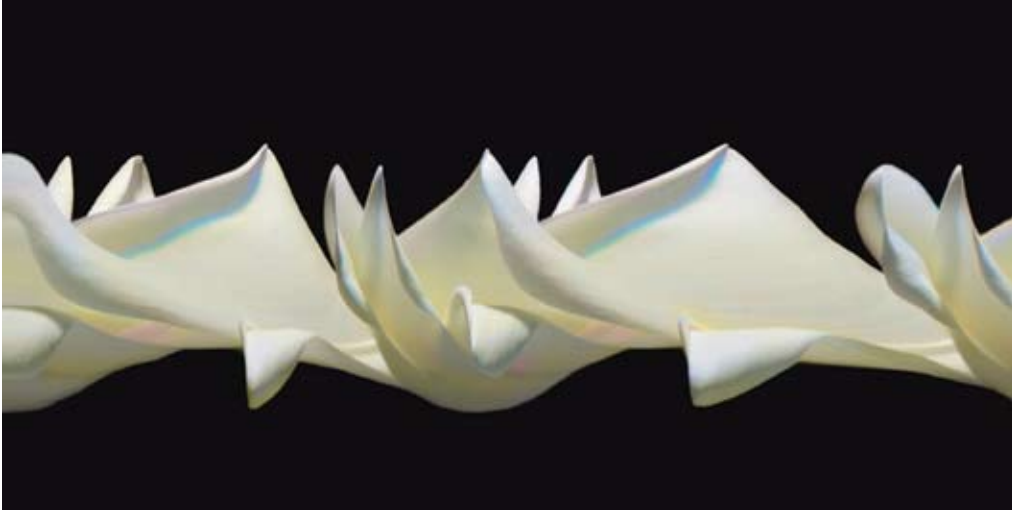
To explore our collective desire for love and sex in particular, *Want #1 (continuous)* harvests information from an online database of current personal ads. Every 12 seconds, it selects an ad, prints the body of that ad onto a small slip of paper and lets it flutter, fall, and/or fly into an ever-growing pile on the floor. Typically, each slip of paper turns in different directions and moves with different speeds, depending on the length of the ad. Ads pile up over the days that the piece runs and visitors are encouraged to interact with this pile however they see fit. Although the piece does periodically check for new ads, it does not print them in “real time” but rather meters them out at an even, unceasing pace.

## TECHNICAL STATEMENT

*Want #1 (continuous)* combines a thermal receipt printer and a computer taking data from the internet to render “wanting” for the viewer. This is a computer and internet enabled work where viewers see only small slips of paper falling from the ceiling.



# Ansen Seale



*Unfolding no. 14*  
25 inches x 49 inches  
2D imaging, digital slitscan photograph

## ARTIST STATEMENT

For the most part, photographers have applied their craft to imitate the real world. The camera has been used to capture a frozen slice of time, and present it to us as we would normally perceive it. Thus, the photograph becomes a proxy of the real object.

Rather than suspending a single moment, my photography examines the passage of time. With a digital slitscan camera of my own invention, the horizontal axis of the image is rendered as a time exposure. Counter to classic photography, still objects are blurred and moving bodies are rendered clearly. Instead of mirroring reality as we know it, this camera records a hidden reality. The apparent “distortions” in the images all happen in camera as the image is being recorded. There is no Photoshop manipulation. These “distortions” could really be described as a more accurate way of seeing the passage of time, although it is quite different from our traditional concept of the depiction of time and space in art.

The *Unfolding* series continues the idea of using reality as a starting point, but offering a different perspective on it. Although this is photography in the purest sense, this technique violates two of the most basic traditional photographic notions: single point perspective and the idea of the “slice of time.”

## TECHNICAL STATEMENT

The source of this image is a special digital camera invented by the artist. The device is a combination of computer and camera specially designed to capture a reality that surrounds us but of which we are unaware. A single sliver of space is imaged over an extended period of time at hundreds of times per seconds. The result is an exchange of the dimensions of X and Time.

# Nathan Selikoff



*A Society of Stickpeople (captured, #31)*  
 6 inches x 15 inches  
 Algorithmic image, archival inkjet print

## ARTIST STATEMENT

In 2004, I created a graphics program that simulated a population of stickmen and stickwomen through various iconic stages of life: birth, play, love, work, rest, travel, and death. Due to some intentional variability and the fluidity of interactions between agents, the results were always unique: the population favored one gender over the other, exploded, tapered off, was productive and concentrated or was ineffectual and scattered.

This print is an attempt to capture the entire “evolution” of the *Society of Stickpeople* in one frame. Historically, chronophotography was one way that artists and scientists captured motion. Pioneers such as Eadweard Muybridge and Etienne-Jules Marey captured unique images of motion that were scientifically revealing as well as aesthetically pleasing. Marcel Duchamp captured time in a different way in his painting *Nude Descending a Staircase*.

I am continually fascinated by the diversity and complexity of the images that can come from a simple set of instructions given to a computer. This modern take on chronophotography is made possible by the unmatched processing power of the computer, which I enjoy using as an artistic tool. Applying design fundamentals

to the raw output of my program helps reveal beauty and carries the images to a more refined level of composition.

## TECHNICAL STATEMENT

The original OpenGL program was crafted to simulate a population using finite-state machines, using stickmen and stickwomen with simple animations to visually represent the unfolding dynamics of the population. Later, the program was changed to experiment with the idea of digital chronophotography, or a way to capture in one frame the essence of each particular simulated run. This was achieved by leaving the drawn image every frame rather than clearing it between frames. This technique, combined with a very low opacity in the drawn elements, allowed the image to slowly accumulate over the course of thousands of frames. At any point in time, a key could be pressed to save a high-resolution version of the image at its current state of evolution.

**Carlo Séquin**  
 University of California, Berkeley  
 EECS, CS Division  
 639 Soda Hall, #1776  
 Berkeley, California 94720-1776 USA

sequin@cs.berkeley.edu

# Carlo Séquin



*Hilbert Cube*  
 5 inches x 5 inches x 5 inches  
 Sculpture: stainless steel and bronze alloy

## ARTIST STATEMENT

*Hilbert Cube* emerged from the challenge of taking the famous two-dimensional Hilbert Curve and exploring what can be done with this pattern in three dimensions. The resulting intriguing “brain-like” structure is based on a recursive procedure that repeatedly splits the cube, and the resulting parts, into two equal, mirror-image parts. At each level, the two halves are only very loosely connected; at the highest level there are only two connectors — again reminiscent of the human brain.

The motivation behind *Hilbert Cube* and similar works lies in the drive to find procedural formulations that extract the inherent symmetries and constructive elegance that lie beneath the best sculptures by highly skilled artists, but which also can be found in many natural artifacts and even in the physical laws of our universe.

There were many challenges in realizing the initial vague concept. Many combinations of splitting, twisting, and assembly of the individual recursive modules had to be tried out to meet all mathematical and aesthetic requirements. This would not have been possible without the help of computer-aided tools. The speed with which many such variations can be explored provides great stimulation, and the computer thus becomes an amplifier for an artist’s creativity.

The virtual design space, unencumbered by physical limitations such as gravity, allows the artist to become a composer in the realm of pure geometry.

## TECHNICAL STATEMENT

*Hilbert Cube* emerges from a recursive procedure that starts with a simple path along the edges of a cube. Each corner in this structure is then replaced with a copy of this path, scaled down by a factor of two, and suitably connected to maintain the overall cyclic nature of the path. After three recursion steps, a structure emerges with a total of 512 L-shaped turns. Great care has been taken to ensure that no more than two consecutive Ls lie in the same plane.

The implementation challenge was to fabricate this sculpture in metal. Fortunately, a suitable rapid-prototyping process became available recently from ProMetal, a division of The Ex One Company. In this process a “green” part is first formed from stainless-steel powder and a selectively applied binder. This green part is then sintered, and the binder is drained out and replaced by liquid bronze. In this way, it is possible to make very complex parts under direct computer control with no need for molds or machining.

**Benedict Sheehan**  
Independent Artist  
8 Kingsbury Road  
Brighton BN1 4JR United Kingdom

benedict@spore.co.uk  
www.benedictsheehan.com

# Benedict Sheehan



*Magic Mirror*  
40 inches x 20 inches  
Interactive art object

## ARTIST STATEMENT

Illusion is my art form. I use my technical and creative skills to produce deceptive art that challenges and interactively engages the participant creatively. I aim to present technology in innovative guises and forms, away from its usual habitat and parameters. I want to persuade the participants to interact with technology in ways that expand their own perception of art and technology, and provoke thought about the world about them.

Using a mirror to interact with a different universe challenges our sense of normality; by lifting the participant from the usual, the *Magic Mirror* captivates the participants' intellect and creativity. The butterflies in the mirror appear to be just in front of your body, so that you can reach out and play with them. Different types of motion change the behaviour of the butterflies so that the participant is encouraged to interactively engage with the image in the mirror.

As a digital artist, I feel my challenge is to make digital art accessible. I use natural body motion to interact with technology: walking, jumping up and down, waving your arms, rolling the eyes, or twiddling your little finger. This allows even people who are technophy to access technology and, therefore, technology within art.

## TECHNICAL STATEMENT

The *Magic Mirror* goes beyond the normal projected digital image by merging the participant's own reflection with computer-generated imagery. A webcam is used to capture the participant's image, which is then processed by custom software to detect motion and intent. A difference engine detects motion, which is stored as a history so that the intent of the participant can be calculated.

The butterflies are then projected onto a rear-projection screen within a hidden room. The graphics environment OpenGL has been programmed to render the butterflies.

The viewer looks into a two-way mirror mounted on a false wall of the hidden room, where they see their own reflection, and, because of a hole behind the mirror, they also see the computer-generated imagery on the screen. The distance of the screen from the mirror controls the reflected appearance of the sprites. The butterflies can appear to be just in front of the participants, encouraging them to reach out with their hands (or other body parts).

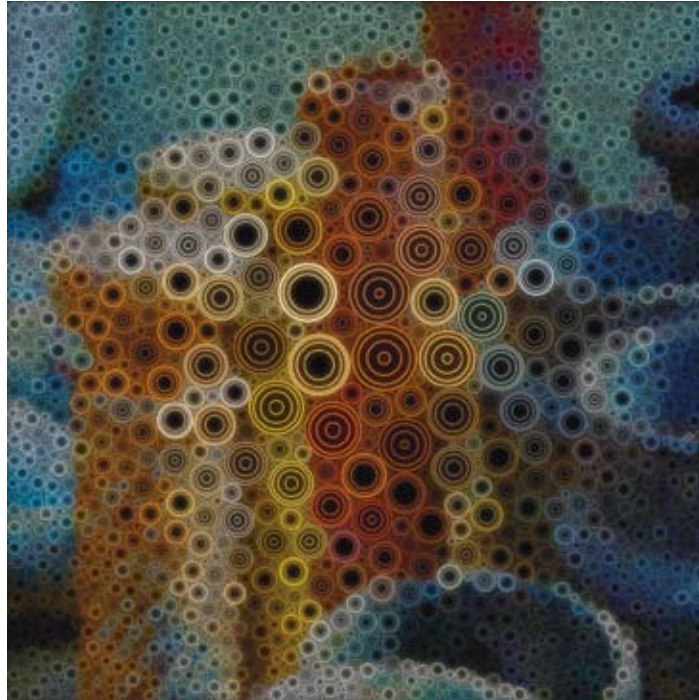
A high-power data projector is used, as the nature of a two-way mirror inhibits half the light intensity from both the reflected image and the projected image.



**Vladimir Sierra**  
 Independent Artist  
 3825 McLaughlin Avenue, #108  
 Los Angeles, California 90066 USA

vladimir@thinkforward.org  
 www.vladimirsierra.com

# Vladimir Sierra



*Still Life #2*  
 28 inches x 28 inches  
 2D imaging, procedural compositing

## ARTIST STATEMENT

Sierra's current body of work is heavily influenced by Japanese ukiyo-e prints from the 1800s and by Spanish modernista architecture, which is prevalent in the city of Barcelona. *Still Life #2* is one such work that mixes the serenity of the ukiyo-e art form with the lively, dynamic elegance of modernista mosaics. Although this piece appears to be strictly abstract in design, it is in fact a loose rendition of a still-life featuring a close arrangement of pottery pieces. This composition has the unusual characteristic that it shows the least amount of information toward the center where the eye is naturally drawn. However, as the eye moves radially outward, more and more detail is revealed. The effect ends up mimicking a kind of inverted depth focus in which the eye receives the most information around the periphery as opposed to the central focus. The circular "brushstrokes" and choice of bright colors give this image a playful quality that keeps the composition in a perpetual state of motion. The process which Vladimir has developed to create this type of painting is called "ukiyotile", a word which he has coined based on the aforementioned influences from which he draws inspiration.

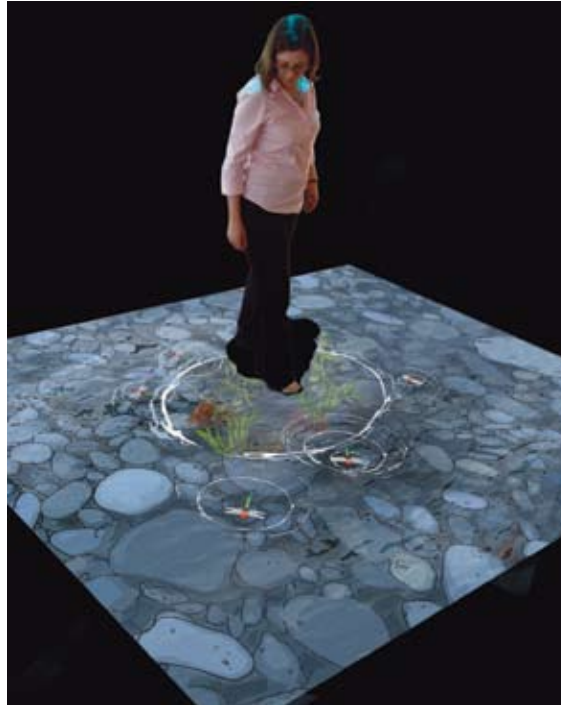
## TECHNICAL STATEMENT

The "ukiyotile" method Vladimir developed to generate this piece consists of three primary steps: design creation, tile generation, and tile coloring. For the first step, a hand-drawn work of art is either scanned or created digitally. Next, a set of helper images is generated based on the original design. These helper images are used to determine tile sizing, tile grouping, and possible areas of exclusion. The next step cross-references each of these images to generate the final tile placement. Finally, during the last step, the original drawing is used to assign an individual color to each tile based on its relative placement in the final image.

**Zack Booth Simpson**  
 Mine-Control  
 613 Baylor  
 Austin, Texas 78703 USA

[submissions@mine-control.com](mailto:submissions@mine-control.com)  
[www.mine-control.com/moderation.html](http://www.mine-control.com/moderation.html)

# Zack Booth Simpson



*Moderation*  
 10 feet x 16 feet x 8 feet  
 Interactive algorithmic projection

## ARTIST STATEMENT

*Moderation* was inspired by the forest-spirit scene in Hayao Miyazaki's movie "Princess Mononoke." Participants walk onto a projected image that shows water gently rippling over river rocks. The first step generates a circular ripple around the participants' feet, and subsequent steps generate a flowering of colorful flowers as water spirits dart about. As participants step away, the plants wither and brown, leaving a trail of flotsam. After the initial interaction, most participants react by running quickly to make more plants and creatures appear. However, if the participants do not moderate their demands of this magical pool by responding to the cue of a dimming image, then the pool fades completely, leaving them bereft. This relationship metaphor demonstrates that good relationships are maintained by careful observation of what one's partner can reasonably deliver and appropriately moderating one's requests to that expectation. This lesson applies to our relationship with the environment and our friends, lovers, children, and colleagues.

## TECHNICAL STATEMENT

In this work, I have extended the infrared touch-screen technology presented at SIGGRAPH 2004, which used multiple, diffuse infrared light sources cast from oblique angles. In this case, the image-processing system detects where a participant is standing with high accuracy. In other similar overhead-projection tracking systems, an overhead camera can not determine the exact position of the feet because the body obscures the camera's view. In this installation, the camera is mounted obliquely so the feet can be located with precision without interference from the upper body.

Many well-known image-detection and filtering algorithms are exploited in this work, all coded in custom C/C++. Because the camera is not coaxial with the projector, calibration algorithms are necessary to correlate camera space to screen space. All hardware components are off-the-shelf.

# John Slepian



*little\_one*  
 3 feet x 4 feet x 4 feet  
 Computer-based interactive sculpture

## ARTIST STATEMENT

In *little\_one*, viewers engage with a 3D-rendered virtual creature by lifting its padded LCD monitor and holding it as one would hold an infant, cradling it in their arms and gazing down at it. Though amorphous and repulsive, the creature on screen nonetheless elicits feelings of empathy through its lifelike sounds and motions. *little\_one* responds much as an infant would, crying and grasping when tipped or shaken, its heavy head falling in the direction of gravity. If held gently, it “coos” happily.

My goal is to investigate what it is that makes us feel connected to other living beings. Through the use of 3D computer graphics and interactive programming, I have created a series of works depicting forms that seem to be living, or derived from living beings. These virtual objects are clearly fictitious, yet they can inspire empathy, disgust, and fascination. They are intended to elicit an awareness of the disjunctions that can occur between one’s emotional and intellectual reactions, and provoke the viewer to consider the process through which we come to identify with the objects of our gaze.

In *little\_one*, this exploration is pursued with even greater intensity. No experience is more intimate than holding an infant. Clearly, the creature on the screen is artificial, yet it is hard to resist the desire to

nurture it. Is it the haptic interface or the kinesthetic knowledge that is called into play, thus lowering our intellectual guard? Or is it that its situation connects us to feelings of helplessness that we’ve all had before? Technically, *little\_one* is relatively simple. But when viewers pick up the piece and implicitly suspend their disbelief (if only for a few moments), *little\_one* feels like a fragile being in their care.

## TECHNICAL STATEMENT

*little\_one* is an interactive, computer-based sculpture. In it, a 3D animated and rendered “creature” moves and makes sounds in real time depending on how its LCD monitor housing is being held. The piece uses a variety of sensors (an accelerometer/inclinometer, an IR motion detector and a pressure switch), the outputs of which are digitized via an infusionsystems iCubeX and transmitted via MIDI to an interactive multimedia application authored in Macromedia Director. In the application, this input is processed to determine the presence of a viewer, whether the piece has been picked up, and subsequently, the position of the monitor housing. Playback of a variety of video clips (including a Quicktime VR, which is used for the continuous two-axis movement) is then determined by sensor input. The application also keeps track of the position of the housing over time.

**Saritdikhun Somasa**

Bowling Green State University  
130 East Washington Street, Apartment #1  
Bowling Green, Ohio 43402 USA

saritdikhun@yahoo.com

# Saritdikhun Somasa



*Driven05*  
18 inches x 24 inches  
2D imaging



*Driven 07*  
18 inches x 24 inches  
2D imaging



*Driven 06*  
18 inches x 24 inches  
2D imaging



*Driven 08*  
18 inches x 24 inches  
2D imaging

## ARTIST STATEMENT

I am a very emotional and sensitive person. Because of that, people directly and indirectly affect my state of mind. There have been many instances when I've felt that my mind, passion, and energy were under control, but they were lost, subconsciously. Some days, my mood was up and then down, a rollercoaster that left me without the drive to accomplish routine activities. On other days, my adrenaline was racing, and nothing could stand in my way — all because of the various people I interacted with on a daily basis.

In this work, I present the uncertainty of the state of mind, which may be controlled, but sometimes not. Due to that uncertainty, the interpretation varies, depending on the states of mind of the viewers themselves. The cloth covers the face to symbolize the protection of identity, resulting in confusion for the shrouded figure. Covering the identity represents the embarrassment of the masked emotion and the loss of direction.

## TECHNICAL STATEMENT

The original figure and hand models were photographed, in color, using a digital camera in a studio setting. Next, all images were manipulated with Photoshop, which allowed for traditional darkroom operations, but in a digital setting. Having control over the various image adjustments such as, contrast, exposure, and color helped facilitate creation of a particular mood while maintaining a surrealistic style within the imagery.



# Mark Stock

**Mark Stock**  
University of Michigan  
72 Beaconsfield Road  
Brookline, Massachusetts 02445 USA

mstock@umich.edu  
mark.technolope.org/image



*Open House*  
24 inches x 24 inches  
3D modeled image

## ARTIST STATEMENT

Even though digital technologies, and computers especially, are capable of expanding the range of what we can experience into the unreal, it remains a worthy goal of computing to recreate what is most intuitive and familiar to a person's perceptions. It is no coincidence that what nature does most effortlessly, in every detail and without fail, is most elusive to computer scientists.

Science seems to have always had a hand in creating art, whether it is dictating the proper mix of dyes or stacking the layers of an emulsion, but never before has the brush of science been so capable as it is with today's tools for scientific computation.

The aim in much of my work is to combine the realism of these tools with otherwise completely fabricated data and have them fight it out. The goal in *Open House* was to create a landscape so foreign as to be nearly repulsive, but so real as to invite continued exploration.

Additionally, I wanted to use geometry to portray the dirty numerical underside of computational science: large problems being broken up into incredibly many pathologically simple problems. Taken as a whole, the many little solutions blend into the perception of a complete, smooth solution.

The fluid-dynamic calculation in *Open House* is of an unstable system on the verge of flipping—putting what is above beneath and what is beneath above. The fingers that reach into the space above are the harbingers of a total reversal. The interface that we see will soon be upside-down.

## TECHNICAL STATEMENT

The underlying geometry in *Open House* is the result of a Rayleigh-Taylor instability, a fluid-dynamic phenomenon in which an unstable layer between fluids of differing densities is distorted under acceleration. The shape was calculated with a new computational fluid-dynamics method that was the result of several years of the artist's dissertation research. Even with the improved efficiency of new algorithms, hundreds of billions of calculations were required to advance the simulation to the time shown.

The open cubes that grow over the landscape are positioned randomly around the centers and aligned with the edges of each of the triangular elements on the computational surface.

After an appropriate sun position and sky color distribution were set, the entire scene was passed to the rendering software. The final image was rendered at 24,000 by 24,000 pixels by Radiance, a scientifically validated lighting simulator and pseudo-radiosity ray-tracer. Radiance traced more than 10 billion rays over two weeks to compute the light interreflection throughout the scene.

The high-dynamic-range rendered image was print-optimized and exported to a Lightjet printer, which exposes photographic paper at high resolution with laser light.

**Thomas Suter**  
Ohio University Southern  
1804 Liberty Avenue  
Ironton, Ohio 45638 USA

suter@ohio.edu

# Thomas Suter

## ARTIST STATEMENT

*Imaginary Flight over Okinawa* represents an aerial and topographical perspective about a visited space. The ability to view one's space and physical movement from a global perspective provides a unique experience unlike typical on-ground views commonly found in traditional art making. The perspective is intended to engage the observer in thought concepts and evoke spiritual energy that will eventually become a memory. These memories are intended to invite and encourage people to think about life situations, events, visited spaces, and experiences.

*Imaginary Flight over Okinawa* is part of a long series of works that relate to actual maps and imaginary environmental landscapes that represent various metaphors including: light, time, weathering, aging, self-reflection, and ethereal spirits.

My hope is that viewers walk away from the work thinking about themselves, how and where they are living their lives. Most importantly, I want the work to spark their curiosity, imagination, and human spirit.

## TECHNICAL STATEMENT

This work involves aerial topographical maps and global photos of the earth surfaces — often places that I have visited or imagined. I manipulate these images in Photoshop and apply various color schemes, lighting effects, and multi-layering on their surfaces. I also look for natural markings and placement that resemble landforms and geographical markings. I then accentuate and emphasize these areas to represent imaginary landforms, air, and water. These elements are transformed and merged into textural and figurative landscapes on a G5 workstation with a Wacom Tablet.



*Imaginary Flight over Okinawa*  
24 inches x 20 inches  
2D imaging

# Masakazu Takano

**Masakazu Takano**  
Independent Artist  
346-40 Kisaki  
Oamishirasato-Machi  
Chiba-Ken 299-3217 Japan

masakazu\_takano@yahoo.com  
www.masatakano.net



*e-scape*  
26 inches x 26 inches  
2D imaging

## ARTIST STATEMENT

In my childhood environment, where nature was limited, I spent time stirring up the water in a pond and interacting with a tree in the garden. I hoped for a dynamic reconstruction of their forms beyond future technology. I imagined the water rising and the tree spectacularly growing by gathering lights.

In *e-scape*, I depict a moment of a phenomenon in electronic space where imaginary nature exists and transforms. My attempt is to characterize this blurry and notional world and translate it back to "common space." I started by thinking of what I would see if I were in such a world. I found energy, force, undulation, and sparkle in my mind, which I represented as similar to phenomena you might see in reality.

## TECHNICAL STATEMENT

The image consists of the accumulated water splashes in a certain amount of time. I began by videotaping the water splashes in digital video and observed the interaction of the water drops back and forth at a low speed. They leap and disappear continuously within a space, so they can not be characterized. To reveal this complex motion, I reconstructed the water splashes in Photoshop by accumulating the pixels of water drops I took later with a digital camera.

**Daphna Talithman**  
Independent Artist  
17 Tarsat Street  
Tel Aviv 64283 Israel

daphtal@yahoo.com  
[www.fylkingen.se/hz/n6/hayashi.html](http://www.fylkingen.se/hz/n6/hayashi.html)

# Daphna Talithman, Orna Portugaly and Sharon Younger



*Heartbeats*  
10 feet x 12 feet x 12 feet  
Art installation

## ARTIST STATEMENT

This interactive installation uses participants' pulses to create virtual life. Four heart-rate sensors are stationed around a circular surface. A fetal figure is projected next to each station. When a user connects to one of the stations, the figure is "born": it starts to pace and progresses one step with each heartbeat. Each station features a different figure with a characteristic movement of its own. The figure's way of moving alters according to the participant's pulse: when the pulse is rapid, the figure takes larger steps and moves more quickly, and when the pulse is slow, the figure takes small steps and its way of moving is more subdued.

When several users connect simultaneously, the figures they bring to life move toward each other, and their paths may cross. In order for the figures to meet, they have to get to the crossing point at the same time. To achieve that, some participants must accelerate their pulses by breathing rapidly or moving, and others must slow down their pulses by taking slow breaths and trying to relax.

When figures meet, they are released from the control of the pulse and from their own repetitive movement. They find consolation in

each other's company, but their bonding is temporary. Following their brief encounter, they resume their repetitive movement. When one of the participants withdraws, the corresponding figure fades away, subsequently resuming its initial position next to the station.

*Heartbeats* creates virtual life in a virtual human mini-lab. The existence of this small community depends on the will and cooperation of the participants, who must be emotionally and physically involved "with all their hearts."

## TECHNICAL STATEMENT

*Heartbeats* uses four simplified ECG units that were built especially for the installation. Participants' pulses are measured and transmitted to the computer. The computer analyzes this information so that it can control the movies featuring the figures, move the figures in the right direction, and calculate their position in order to create encounters.

This installation was created at the Camera Obscura School of Art and supported by Showlogix, makers of show control software.



# Chao-Ming James Teng

## Chao-Ming James Teng

Media Laboratory  
Massachusetts Institute of Technology  
20 Ames Street, E15-320D  
Cambridge, Massachusetts 2139 USA  
jteng@media.mit.edu  
web.media.mit.edu/~jteng/project/cm.html

Edward Shen  
edward@media.mit.edu



*Your Memory, Connected. - Shall I Compare Thee to a Summer's Day*  
24 inches x 24 inches  
2D imaging

## ARTIST STATEMENT

Painting, traditionally, is a way for an artist to communicate their perspectives, feelings about, or ways of understanding a subject. *Your Memory, Connected* challenges this definition of painting by allowing artists to gather and paint with tens of thousands of other perspectives, feelings, and understandings through our artificially intelligent “art-bot” system.

This system can read an art subject and automatically generate a collaged artwork that fuses together individual memory responses. It uses natural-language processing, concept reasoning, and textual-affect sensing techniques to collect all the related memories from people who have stored images on Flickr. The system’s computational “memory retrieval” procedure simulates the evocation process when human brains are triggered. The machine then generates a collage based on all the images and text it finds online. Instead of a montage assembled to create a visual image, this generates montages that materialize concepts, statements, and memories.

Through this work, we intend to create a collaborative and generative painting process using advanced artificial-intelligence techniques. We want to emphasize the facts that Flickr (or any of the other image web sites) is itself an enormous pool of memories of people around the world, and the act of browsing such a site is an act of accessing (peeping?) those memories. We designed this interaction to allow people to discuss the role of authors and viewers of artwork and collaborative creation of artwork across time and space.

## TECHNICAL STATEMENT

Our system generates this image by taking William Shakespeare's Sonnet 18 as textual input, executing the following steps:

1. Analyze the sonnet, extracting its objects, concepts, and affective structures/transitions.
2. Go to Flickr.com, collect all the photos that are tagged with keywords that are conceptually and affectively relevant to the sonnet.
3. Apply a treemap algorithm to fill the canvas with all the images collected.

Step one is achieved by our natural-language processing engine, a concept-reasoning algorithm that uses a tool called ConcepNet, and an affect-structure-detection algorithm that senses the emotion distribution of any paragraph of text. With these tools, we determine how similar two images are in concept and emotional evocation. Step three is then achieved by collecting images that are similar and creating a collage of those images using a modified treemap algorithm originally designed by Ben Shneiderman during the 1900s.

# Anna Ursyn



*Rondo*  
 25 inches x 36 inches  
 2D imaging

## ARTIST STATEMENT

Acutely aware of order, I try to examine what the technological and human worlds have in common. Natural order, revealed randomly and regularly, infuses several levels of both worlds: some determined by humans, through buildings, their windows, even cars parked in lots, and some determined by nature, through trees, branches, and leaves.

Natural order guides our understanding of big datasets related to network analysis when we employ physical analogies of the data, render the data graphically, explore them “by eye,” and interact in real time. My task is to juxtapose the regularity of nature with human constructions, both physical and intellectual. The big-city images, for example, combine how humans affect their environment, and at the same time, how a city metaphor reflects rhythm and organization in big datasets and makes data mining easier. Observers, whether artists or technology experts, perceive such relationships in different lights and from different perspectives and different points of view.

In my work, I transform images of animals into simple, iconic objects in order to present them in dynamic movement as the visible texture of the sky and the ground. Processes in nature and events in technologies inspire my images. Such processes also support my instruction in computer art and graphics, where students learn to create artwork inspired by science and demonstrate their understanding of scientific concepts.

## TECHNICAL STATEMENT

Typically, my creative process runs through stages. First I sketch a general outline for the bigger composition, then I draw abstract geometric designs as starting points for executing my computer programs. Computers then convert my ideas into lines, with code taking shape as iconic images of objects.

I use the computer on different levels. Some of my computer programs produce two-dimensional images; others are three-dimensional, depending on what my composition dictates. Programmed data is electronically integrated into the final artwork.

I create programs in Fortran, then I add photographic content using scanners and digital cameras. To attain the composition, I use repetition of lines, shapes, and forms, select color combinations, transform light intensity, apply grid patterns and moiré effects, and distort and manipulate images by scaling, rotating, slanting, and changing perspective.

The programs serve as a point of departure for photolithographs; they are included in both my two-dimensional and three-dimensional works. Scanners, digital camera, and PCs provide further image manipulation. All of these approaches are combined for the creation of images that also include painterly markings on the archival quality prints.

**Roman Verostko**  
 Pathway Studio  
 5535 Clinton Avenue South  
 Minneapolis, Minnesota 55419 USA

rv@verostko.com  
 www.verostko.com

# Roman Verostko



*The Rocktown Scrolls, Black Elk Speaks*  
 35 inches x 29 inches  
 Pen and ink plotter drawing

## ARTIST STATEMENT

*The Rocktown Scrolls* are named after the Pennsylvania coalfield “patch” where I grew up dreaming wondrous dreams while sliding down the ash-dumps. They present colorful algorithmic drawings accompanied by passages selected from a wide range of literature and culture. The passages are written with algorithmically generated glyphs clothing the alphabet with a unique set of linear forms. These coded glyph forms invite us to ponder the nature of language, while the larger colored forms may be savored as cyberflowers floating in unbounded space.

My algorithmic work is rooted in the tradition of early 20th-century artists who sought to create an art of pure form. A few years after graduating from the Art Institute of Pittsburgh (1947), my interest turned to the theory and practice of the pioneers of a pure “abstract art,” an art that purists preferred to label as non-objective. Influenced by the work and writings of artists like Malevich and Mondrian, my work turned to a lifelong quest for visual forms that can stand on their own without “re-presenting” or pointing to other realities. All of my current work, generated with coded procedures, continues the same quest for “pure form” that seduced the first generation of early 20th-century purists.

The glyphs, without spaces, read: “Then I was standing on the highest mountain of them all and round that made one circle, wide as daylight and as starlight, and in the center grew one mighty flowering tree to shelter all the children of one mother and one father – Black Elk”

*From Black Elk Speaks, as told to John Neihardt by Nicholas Black Elk, Chapter III, The Great Vision, 1932.*

## TECHNICAL STATEMENT

*The Rocktown Scrolls* are pen-and-ink drawings executed by the artist using his own software. Each drawing consists of hundreds of lines drawn with technical pens using a pen plotter coupled to a PC.

For this drawing both the text and the colorful forms were executed with ink pens driven by personal drawing algorithms the artist began writing over 25 years ago. Written in elementary BASIC with DMPL as the command language driving the pen plotter, the code remains a primitive form of algorithmic drawing. It employs elementary procedures using plane geometry, logical operation, and adjustable-parameter controls.



# Diane Vetere

**Diane Vetere**  
Independent Artist  
340 Clinton Street  
Toronto, Ontario M6G 2Y8 Canada

ddv@ican.net



*do you see what i see 15*  
36 inches x 36 inches  
2D painting, pigment print

## ARTIST STATEMENT

In the fall of 2005, as a result of their interest in my previous work and techniques, a class of college students taking an introductory digital art class invited me to give a virtual tutorial. To give them a taste of how I work, I proposed “painting machines” that they could create by recording actions using standard Photoshop filters. During the development of the tutorial, I discovered bugs in a couple of the standard Photoshop CS2 filters, which at first annoyed me because they could compromise the tutorial, but then they intrigued me. The combination of the bugs and the “painting machine” technique that I developed for the students resulted in this series of work.

## TECHNICAL STATEMENT

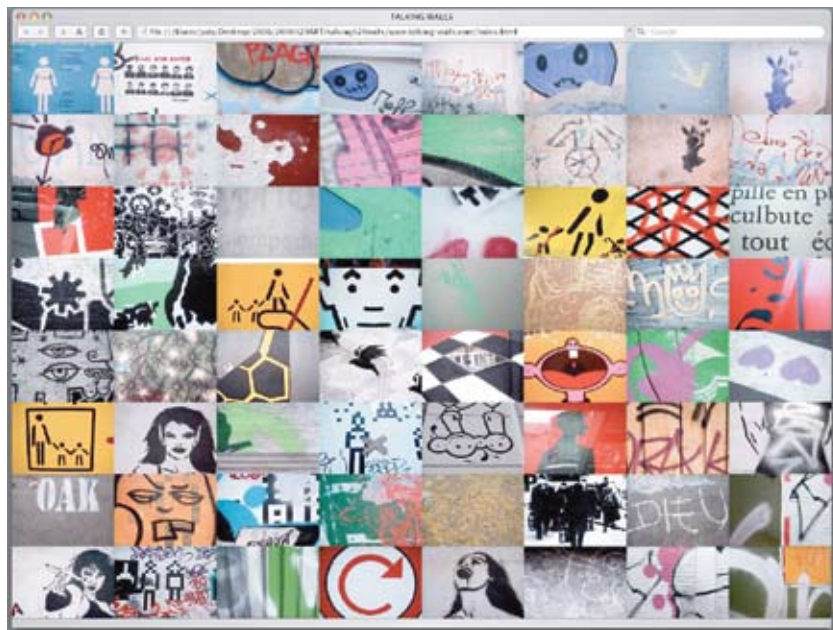
The work began with a low-resolution photograph used as a color base and then was manipulated entirely in Adobe Photoshop CS2 using standard filters and exploiting certain bugs. One of those bugs is that the cutout filter breaks with certain complex images, returning what can only be described as shards. The other is that the shear filter returns straight or angled lines instead of curves if the filter has not been run at least once outside an action.



# Jody Zellen

**Jody Zellen**  
Independent Artist  
843 Bay Street, #11  
Santa Monica, California 90405 USA

jodyzel@aol.com  
www.talking-walls.com



*Talking Walls*  
Web-based art

## ARTIST STATEMENT

In my work, I push the boundaries of various media. I explore architectural spaces as well as digital spaces, making projects that are both site-specific and unexpected. My work juxtaposes images of old and new cities, reflecting a sense of nostalgia for the past contrasted with wonder about the future. The works mirror the experience of navigating a charged metropolitan area.

A walk through the city becomes a vehicle for a meditation on space, time, and human interaction. I am interested in the patterns, structure, and design of the urban environment. Rather than document the cities I see, I employ media-generated representations of contemporary and historic cities as raw material for aesthetic and social explorations. Using these appropriated images and texts, I make individual photo collages, multi-media installations, public artworks, artist's books, and net art projects.

## TECHNICAL STATEMENT

This web-based project uses QuickTime and Flash to create the sounds and sites of the city.

# Orit Zuckerman

**Orit Zuckerman**  
 Massachusetts Institute of Technology,  
 Media Lab  
 20 Ames Street  
 E15-320A  
 Cambridge, Massachusetts 2139 USA  
 orit@media.mit.edu

Sajid Sadi  
 Pattie Maes



*Spotlight*  
 8.5 feet x 6 feet  
 Art installation, interactive portraits on 16 screens

## ARTIST STATEMENT

*Spotlight* is a set of 16 interactive portraits. Each portrait has a set of nine “temporal gestures” – photographic-quality sequences of human gestures such as “looking up.” The portraits are networked and placed in a 4 x 4 layout. Every few seconds, a randomly selected portrait looks toward a neighboring portrait. In turn, the neighboring portrait looks back. To viewers of the installation, these “random discussions” create a sense of “social dynamics.” Viewers can interrupt the group dynamics at any time, by selecting one of the 16 portraits. The remaining 15 portraits automatically react and direct their attention to the viewer-selected portrait, which reacts with a special gesture – “being the center of attention.”

*Spotlight* is about an artist’s ability to create new meaning using the combination of interactive portraits and diptych or polytych layouts. The mere placement of two or more portraits near each other is a known technique to create new meaning in the viewer’s mind. *Spotlight* takes this concept into the interactive domain, creating interactive portraits that are aware of each other’s states and gestures. So not only the visual layout, but also the interaction with others creates a new meaning for the viewer.

Using a combination of interaction techniques, *Spotlight* engages the viewer at two levels. At the group level, the viewer influences the portraits’ “social dynamics.” At the individual level, a portrait’s “temporal gestures” expose a lot about the subject’s personality.

## TECHNICAL STATEMENT

*Spotlight* is a system of 16 portrait agents that operate as a distributed master-slave cluster over TCP/IP. Each portrait agent is a set of nine gestures, each a sequence of 40 photographic-quality black-and-white frames, packaged as a QuickTime movie.

There are 16 nodes; each an LCD screen with a built-in computer system. Each node is able to communicate with the others and display a portrait clip. At startup, one node is arbitrarily designated as the master, and all slave nodes are directed to connect to the master node to form the array. Once connected, each node declares its own configuration. The agents exist on the server only but are synchronized with their respective portraits over the network. This design simplifies communication between nodes, while retaining synchronous, millisecond-scale control over the video playback.

In idle mode, each agent may randomly choose a neighbor to “converse with.” When viewers initiate an interaction, the agents all “look” at the agent selected by a viewer. The target agent then plays its gesture action, while the other agents resume their standby posture. The entire array is then reset, and if no further interactions take place, the agents eventually return to idle mode.



# Electronically Mediated Performances

The SIGGRAPH 2006 performances showcase the creative intersection of technology, dance, music, magic, theater, and mixed-media forms of art. These performances involve extraordinary collaboration among visionaries, technologists, artists, musicians, dancers, and other talented individuals. Thirteen groups from six different countries performed on the art gallery stage, while three performances took place throughout the city of Boston and in the convention center corridors.

# Addictive TV



*The Eye of the Pilot*  
 Live multimedia performance

## ARTIST STATEMENT

The visual and musical journey takes the audience to places such as Karachi, Ivory Coast, Saigon, Tahiti, and San Francisco, capturing the romantic innocence of the world at a time when traveling with a home movie camera was still highly unusual. The performance gives a rare glimpse into the beginnings of a world that we all now take for granted, where recording of images and international travel are common place.

Interwoven with stylised interviews with pilot Raymond Lamy, the original footage is re-worked with graphics to a new and original soundtrack by Addictive TV, which features live guitar from French artist Alejandro de Valera, who specialises in composing for and playing his rare, custom-built fretless guitars.

*The Eye of the Pilot* was supported by the Paris arts board Arcadi as part of their experimental multimedia grants. It has been performed at several venues, including the Pompidou Centre in Paris, the National Theatre in London, and The Cologne Museum of Applied Arts.

## TECHNICAL STATEMENT

*The Eye of the Pilot* can be described as a live cinema performance, as both the audio and visuals are performed live, which is possible only with thanks to recent developments in audio/visual performance technology. Addictive TV use professional DVD turntables (the DVJ: X1), which they helped test and launch for Pioneer a few years ago.

AV Performance Software: VJammPro, alongside Ableton Live audio software and live guitars.



# Julie Andreyev

## CONTACT

**Julie Andreyev**  
Independent Artist  
Emily Carr Institute  
1490 Adanac Street  
Vancouver, British Columbia V5L 2C3  
Canada  
julie@fourwheeldrift.com  
www.fourwheeldrift.com

## COLLABORATORS

Jordan Benwick, technical collaborator  
Sean Arden, tactical research, installation  
Simon Overstall, tactical research, software  
Hyuma Frankowski, tactical research, hardware  
Sandra Hanson, graphic design  
Three Boston assistants, local knowledge



*VJ Fleet [redux]*  
Mobile audio and video performance using cars

## ARTIST STATEMENT

*VJ Fleet [redux]* is informed by interactive media from popular culture (specifically custom car and club sub-cultures) and performance art, experimental music, video projection, and interactive installations. By combining the mobility of the car with audio, video and interactive components, that which is private (the interior space of the car) becomes public and a tool for visual commentary about the city and its use. Aspects of the host city's specific car culture are highlighted through the choice of cars for the fleet, and by custom "styling" (vinyl labeling) on the car exteriors.

The fleet drives through the city, recording, manipulating, and projecting video imagery of the route, which is loosely determined by local participants and drivers who have knowledge of the city's highlights. The cars are set up with sensors and software that allow interaction between the car and driver to create live effects on the videos, which are projected on panoramic screens in the cars and made visible to people in the street.

Audio aspects of the city, and from the engine and passenger areas of the cars, are recorded for use when the cars stop at determined locations. Here, the cars are arranged to display the video archive of the drive, and the audio is manipulated by software into a new musical soundscape that is played on the cars' audio systems. In this performance, cars can be perceived as recalling the drive to the location through the narrative of the videos and the expression of the sound. Other cars in the immediate vicinity receive the broadcast on their stereos. The cars' projected videos are synced

into a new panoramic response to the music. The effect is a live vehicular performance of remixed audio and visualizations of the city and its publics, and the private (now social) spaces of the cars.

## TECHNICAL STATEMENT

Three cars are each fitted with: sensors that read acceleration, braking, turning, and weight-shifting connected to an iCube and a laptop; a video camera that provides a view out the front or side windows; a contact microphone in the engine compartment and a lavalier microphone in the passenger area that sends inputs to a digital audio recorder; a video projector and screen on the rear windshield; and custom-cut removable vinyl decals to style the cars.

Digital information about the driver's actions is sent via iCube to a Max/MSP software patch that manipulates the video feed from the camera. This manipulated video is projected on the rear screen and recorded by the software patch. The audio of the passengers and crew talking, and of local music played over the car audio system, is recorded via the lavalier microphone. The audio of the car and of the outside environment is recorded via the engine compartment microphone.

When the cars are stopped, the route's recorded sensor data is read by a custom Max/MSP patch and applied to the recorded audio samples to create a new soundscape and played via FM broadcaster through the cars' stereo systems. A custom Max/MSP patch remixes the route's recorded video to aspects of the sensor data and projects a new panorama on the cars' back screens.

# Mark Ballora

**Mark Ballora**  
 Penn. State University  
 School of Music  
 233 Music Building I  
 University Park, Pennsylvania 16802-1901  
 USA  
 ballora@psu.edu  
 www.music.psu.edu/Faculty%20Pages/Ballora

Agatha Jui-Chih Wang, flutist  
 agathawang@adelphia.net



*Singularity*  
 Interactive music for performer and computer

## ARTIST STATEMENT

The music I most admire embodies mythos as the Greeks meant it. Contrary to our current parlance, in which the word “myth” means “something untrue,” mythos seeks to tap into powerful truths about our world.

*Singularity* grew out of extended reflection that came to me after reading Stephen Hawking’s descriptions of black holes. I was taken with his descriptions of how they absorb and recycle the universe’s matter and I started comparing black holes to mythical traditions that explore the nature of birth, death, and rebirth; added to the mix was the tension inherent in the human character between the need for peace and freedom on the one hand, and the need for structure and companionship on the other. The piece attempts to come to a mythic understanding of how these forces may interact. The use of live audio processing is meant to take the sounds of a virtuoso flute performance and broaden it, suggesting a broader perceptual scope than the immediately tangible, a presence in the context of a reality that contains the physical/earth plus much more.

## TECHNICAL STATEMENT

A flute microphone delivers an audio signal of the performance into an audio converter, which digitizes the signal and allows the computer to manipulate the signal. The software synthesis program SuperCollider ([www.audiosynth.com](http://www.audiosynth.com)) has been programmed to apply a set of preset “states” to the audio that are activated by simple keystrokes on the computer keyboard. A variety of processing is done to the flute, adding echoes, reverberation, or distortion. A looping function sends audio to a buffer and plays it repeatedly. The software also produces algorithmically generated electroacoustic textures. Thus, the sound of the flute performance is expanded and placed in a variety of sonic contexts. The 43-tone Just scale devised by Harry Partch is explored in many of the textures, with its qualitative subtleties complementing the ethereal nature of much of the audio processing.

# Yoichiro Kawaguchi

## CONTACT

**Yoichiro Kawaguchi**  
The University of Tokyo  
7-3-1, Hongo, Bunkyo-ku  
Tokyo 113-0033 Japan  
yoichiro@iii.u-tokyo.ac.jp  
www.iii.u-tokyo.ac.jp/~yoichiro

## COLLABORATORS

Masayuki Takagi  
Tomohiro Akagawa  
Shuhei Tsuruoka  
Alissa Cardone, dancer



### *Gemon Dance*

Interactive performance, controlled by simultaneous real-time capture of human movement and 3D CG object

## ARTIST STATEMENT

This work expresses the motion of a dancer captured in real time and a 3D CG object's reactions to the motion. The audience, jumping or dancing in front of a screen, becomes a part of the image and its organic and geometric shapes.

The work reflects dance traditions in every country where it is exhibited.

## TECHNICAL STATEMENT

The system processes a dancer's actions captured by a camera in real time as mathematical parameters and projects them on the screen as changing three-dimensional CG images. The behavior of the CG images and the arrangement of the dance change interactively.

# J.U. Lensing (THEATER DER KLÄNGE)

**J.U. Lensing**  
THEATER DER KLÄNGE  
Winkelsfelderstraße 21  
40477 Düsseldorf, Germany  
info@theater-der-klänge.de  
www.theater-der-klänge.de

J.U. Lensing, director  
Thomas Neuhaus, music  
Christian Schroeder, light  
Lucy Lungley, video programming  
Jacqueline Fischer, choreographer  
Jenny Ecke, dancer  
Jelena Ivanovi, dancer  
Caitlin Smith, dancer  
Hana Zanin, dancer



*HOEReographien*  
Interactive performance

## ARTIST STATEMENT

*HOEReographien's* starting point is questioning the dependence of classical dance on music. To what extent can movements and movement lines become audible in space? What will happen when music arises from movement and if, within that context, musicians and dancers interact? And what if the dancer's body is filmed on the stage and converted in real time into a video sculpture that, in turn, interacts with human bodies on the stage to produce a conglomerate that produces material and virtual dance?

If music results from the movement of dance and, therefore, the structure of the composition is not developed, adapted, and interpreted through music composition, what is the role of the dancer? How will this affect dance?

How do musical variations and development forms appear visually, in order to provide movement, resulting in a sound that is, at first, amorphous but later adopts an understandable form and structure? Which form of contemporary light and video art results from this interactive action?

And how can this "new" process be made understandable for a live audience?

*HOEReographien* is a cycle of single pieces (Soli, Pas de Deux, Trios, Quartet) in the form of dance, through which electronic music is produced. Dance that develops video sculptures and dance from live structured improvisations, a constellation that, with mixed shapes, results in an overall visual composition in the form of "autonomous" dramatic art that supports the concept of "autonomous music."

## TECHNICAL STATEMENT

A black-and-white camera delivers 25 images per second to a PC running the software Eyecon, which transforms the pictures to controlling data for electronic sound and structures programmed in 3ds Max.

Three mini-DV cameras each record another frame from the stage. For different sets in the performances, one of these three cameras receives its pictures from a Power Mac running Max/MsP/Jitter, which transforms the color-camera frames in Live-Video-Art. In a few sets, Max/MSP/Jitter receives control data from Powerbook Music-Max, so that even the dynamic of the changes in the video-sculptures are controlled by the movements of the dancers.



**Benoit Maubrey**  
 Artist/director  
 Bahnhofstraße 47  
 14806 Baitz, Germany

maubrey@snafu.de  
 www.snafu.de/~maubrey

# Benoit Maubrey



*AUDIO BALLERINAS*  
 Performances with electro-acoustic clothes

## ARTIST STATEMENT

My decision in the early 1980s to stop working with pigments and canvas came from a desire to interact directly with public spaces. By building loudspeakers into clothes, I could intervene in any given environment in a temporary and cost-efficient way.

In 1989 the *AUDIO BALLERINAS* started using a variety of electronic instruments in order to personally interact with their environment. Among others, light sensors that enabled them to produce sounds through the interaction of their movements and the surrounding light. A variety of other electronic instruments (movement sensors, samplers, contact microphones, and radio receivers) allowed them also to individually work with the sounds, surfaces, topographies, and electromagnetic waves of the space around them. The dancers were then collectively choreographed into “audio ballets.” To this date the *AUDIO BALLERINAS* are still a very active, vibrant and successful performance project.

## TECHNICAL STATEMENT

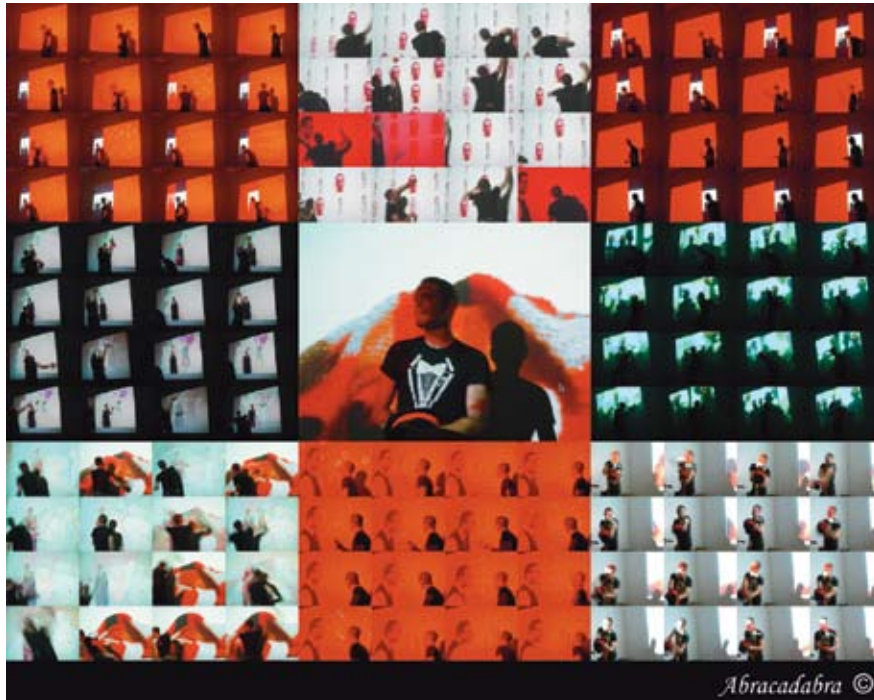
Loudspeakers, circuit boards, and electronics in general can be salvaged from modern junk and disguardeds toys. My artistic tools are electroacoustic clothes: costumes and suits equipped with loudspeakers, amplifiers, and various surplus electronics parts that allow the individual wearers to react acoustically to their environment. Basically, each person wears one part of a composition: the position of the individual “audio actors” and their movement within a space produces the final composition. The orchestration of the mobile sounds creates the final musical score.

# Jun Oh and Min Jeong Kang

**Jun Oh**  
New York University  
144 Spencer Street, Apartment 204  
Brooklyn, New York 11205 USA  
junisjun@gmail.com

Min Jeong Kang, co-author  
New York University  
mjmisogmail.com

Christian Croft, performer  
New York University



*Abracadabra*  
Performance art

## ARTIST STATEMENT

The mystery and precious memory of viewing a simple “magic show” when we were young has been forgotten. The magic show was always an exciting event that captured our curiosity even though we suspected that it might not be real. Children were encouraged to stretch their imaginations and dream about how they could do magic in their own way.

Based on these experiences, we present a magic show that makes it possible for anybody to participate. This project, rather than being performed by a trained magician, uses performers randomly selected from the audience. For example, children could participate with simple movements such as snapping their fingers to illuminate a magical interactive world.

Essentially, a performer shows various magic gestures, and, through motion capture and video tracking, the heightened visual effects are projected to produce an experience that could not normally be presented by a magician alone.

## TECHNICAL STATEMENT

This performance-oriented piece is generated by MAX/MSP/Jitter. A video camera captures a performance or gesture and automatically saves it as a movie file. The file is then processed by Jitter and projected on the screen behind the performer. Also, Jitter cross-fades both the pre-recorded videos and real-time visuals. With these visual effects, the audience can get a sense of the magical and interactive setting of the performance. Because the rear projection is divided in half, the audience experiences a mirror effect that at once delays the actions of the magician and ties the performance to the virtual world.

The performer’s movement is also captured by a camera and processed into applied visual effects that are presented on the backdrop. Through motion tracking, the performer can add and subtract layers of other visual effects and enhance the overall experience of the performance.

# Palindrome

## CONTACT

**Frieder Weiss**  
Aurachweg 6  
90449 Nürnberg  
Germany  
frieder@palindrome.de  
www.palindrome.de

## COLLABORATORS

Emily Fernandez, co-author  
emily@emily.li  
Dan Hosken, co-author  
dan.hosken@csun.edu  
Min Jeong Kang, co-author  
New York University  
mjmisog@gmail.com  
Christian Croft, performer  
New York University



*Perceivable Bodies*  
Interactive dance performance

## ARTIST STATEMENT

This dance performance investigates the representation of the body and the changing perception of media enriched dance performance. *Perceivable Bodies* metaphorically observes how the technological age has fundamentally changed the understanding of human kind. Along with technical developments that enable the computer systems to behave in an intelligent and human way, the performance enables the understanding of human nature in a more technical and functional way.

Modern brain research interprets our lives in a similar fashion to the story told by our biological CPU. Aspects of humanity such as love, art, religion, etc. are understood as functional, virtually created from sensory information. Perception is the negotiation between our interaction with the physical world and the images and experiences we already have stored in our memory.

For more than 10 years Frieder Weiss, co-director of Palindrome IMPG has worked with real-time computer media in dance performances. His goal is to support real-time presence in performance and provide new methods for performers to develop their work. Dance is typically difficult to represent in fixed media — it demands that the performer's physical presence exists in a real space. With dancer and choreographer Emily Fernandez, Palindrome developed a series of performances that focus on real-time acoustical and visual interaction.

With composer Dan Hosken, Weiss and Fernandez are able to further develop the movement-real-time sound generation aspects of the performances. One of their primary concerns, is the ability of the audience to perceive the connections between the physical motions of the dancer and the sound and video that results. This perceivability falls along a continuum from overly simple (one motion

yields one sound) to overly complex (something's changing but we don't know what). Their desire is to stake out ground in the middle of that continuum while still allowing for creative choreography and rich sound output.

## TECHNICAL STATEMENT

For the performance, *Perceivable Bodies*, Frieder Weiss developed various software systems and projection techniques. "EyeCon" and "Kalypso" are two programs specifically developed for use in the dance performances. They are internationally available and used by numerous companies around the world.

"EyeCon" is a camera-based motion sensing system where the movements of the dancers are analysed and used to control other media such as software synthesized sound, images, etc. "Eyecon" maps the stage into different zones and functions. Parameters like position, activity, symmetry, size, etc. are analysed and mapped to sound and video parameters.

In contrast to this analytical approach, "Kalypso" allows aesthetic transformations of video images for scrims, screens or on body projections. Special algorithmic abstractions are made and allow visual effects such as shadow layering, variable time delays, body outlines, etc. Special care is taken to allow the visual effects to be interactively scripted and transformed.

Dan Hosken, composer and expert digital sound processor, works with MAX/MSP to develop his sound scores. MAX/MSP is a graphical data flow programming language for sound. The program patch for this piece introduces several variations of granular synthesis, a technology that cuts sampled sound material into 'grains' that are layered and looped to generate new sounds.

# Joe Reinsel

**Joe Reinsel**

University of Maryland, Baltimore County  
Visual Arts Department, FA111A  
1000 Hilltop Circle  
Baltimore, Maryland 21250 USA

jreinsel@umbc.edu



*Collapse:Focus*  
Live mediated video and sound performance

## ARTIST STATEMENT

In *Collapse:Focus*, Reinsel uses accessible tools to translate ideas to the audience. Using a video phone and self-made software, he gathers samples from his immediate surroundings as source material for the creation of the work. Combining original media, including video and sound, he gives form and substance to his vision. Transcending emotion and reality, his work questions the linkages of interpersonal relationships through allegory and real-time samplings of the environment. He sees this material as “raw bits” and uses them to form new systems and patterns from things that may be recognizable to the audience but in no way represent the item that they remember.

## TECHNICAL STATEMENT

Technology in this piece consists of a laptop computer that Reinsel uses as an instrument to manipulate and perform the video and sound during the presentation. Source material is gathered with a video phone, which captures video and still images that are used in the piece. Also, during the performance, Reinsel uses a small web camera connected to the laptop. This live video source is combined with the previously captured video and images during the performance.



# Daniel Sauter

## CONTACT

**Daniel Sauter**  
School of Art & Design  
University of Illinois at Chicago  
929 West Harrison  
106 Jefferson Hall  
Chicago, Illinois 60607-7038 USA  
contact@daniel-sauter.com  
www.daniel-sauter.com/light\_attack

## COLLABORATORS

Earl Minor, projected character  
Production assistance:  
Adriana de Souza e Silva, Jiacong (Jay)  
Yan, Zehao Chang, Ted Chung, Dolores  
Rivera, Silvia Rigon, Andrew Hieronymi,  
Ashok Sukumaran, Lucas Kuzma, Guthrie  
Loneragan, Mylinh Nguyen, Kelly Chen,  
Greg Shin



*Light Attack*  
Hybrid performance

## ARTIST STATEMENT

*Light Attack* is a media artwork, as well as social experiment, performed in public urban spaces. As a car drives through the city, an animated virtual character is projected onto the cityscape, exploring places “to go” and places “not to go,” according to the popular Lonely Planet travel guide.

*Light Attack* elaborates the concept of the “moving moving” image. The projected moving imagery corresponds to the movement through the space, while the character’s behavior is influenced by the urban context and passers-by. The piece suggests “projection” as an emergent ubiquitous medium, raising questions about property and privacy. How public is public space? How do authorities deal with this question? How is “projection,” as an ubiquitous medium, changing the environment in which we live?

In its first version, premiered in Los Angeles in 2004, *Light Attack* focused on the ambiguous nature of the city, such as logics of place, neighborhood, environment, landscape, and social context in the stereotyped neighborhoods of Hollywood, Beverly Hills, Santa Monica, Downtown, Watts, and Compton. Performed within the iconic architecture of Florence, Italy, in 2005, the virtual character revealed and absorbed a radically different urban context through its own beam of light, engaging passers-by and architecture in a visual dialogue.

One of the main objectives of *Light Attack* is to transform the city’s signs and architecture as a “sender” into a “recipient” through mobile projection. By augmenting a virtual character onto the buildings’ facades, *Light Attack* appropriates the urban context for artistic expression. Hence, the project challenges the concept of the public sphere, individual and commercial interests, privacy, and property.

## TECHNICAL STATEMENT

*Light Attack* uses a custom mobile projection setup installed in a car to project an animated virtual character onto the cityscape. The setup includes a computer laptop, velocity sensor, power supply, projector, and a video camera to document the piece. The car’s movement through the city determines the virtual character’s behavior and motion patterns, synchronized by a velocity sensor attached to the car wheel and custom computer software. Short pre-recorded video loops are arranged into seamless motion patterns by the computer software, allowing interaction with the architecture and passers-by in real time.

**Hyojung Seo**  
 SADI  
 BoJeon Bldg 70-13  
 NonHyun-Dong KangNam-gu  
 Seoul 135-080 South Korea

seo.hyojung@gmail.com  
 www.untitled5.com

# Hyojung Seo and Seunghye Kim



*spatial oscillator*  
Interactive performance

## ARTIST STATEMENT

We imagine the virtual space as being a stable state of energies. As a human enters the space, the space starts to oscillate. The state of equilibrium is broken, and the energy of the human body spreads to the space. As in Hegel's pattern of dialectical reasoning (thesis, antithesis, synthesis), we defined the relationship of the space and the human in three phases:

### 1. Recognition

The space shows the horizontal lines that represent a stable state. As the performer enters the space, the space starts to oscillate. The noise increases as the performer approaches the space, and the lines are distorted according to the shape or movement of the performer. The sound also is synchronized with the same data used for the image, generating a granular process.

### 2. Confrontation

The space starts to conflict with the human body. The performer and the space oscillate to compete for predominance. The image represents the reaction of the space such as changing dimensions, colors, and speed according to the movement of the performer.

### 3. Fusion

The energies from the space and the performer are mixed. The colored particles in the image represent the energies from the human body. The particles fill the space and the space reaches a new equilibrium state that includes the energy of the performer.

## TECHNICAL STATEMENT

The motion of the performer is detected by a DV camera and data such as the speed of activity and the position of the performer in the space are shared with the computers and mapped to parameters for processing sounds and images in real time. The virtual particles' movements and energies induced by the performer are used as parameters for the particles-like sound.

# Paul Sermon, Steve Dixon, Mathias Fuchs, Andrea Zapp

## Paul Sermon

The University of Salford  
Adelphi Research Institute  
for Creative Arts and Sciences  
Centenary Building, Peru Street  
Salford, Greater Manchester M3 6EQ  
United Kingdom  
p.sermon@salford.ac.uk  
creativetechnology.salford.ac.uk/  
unheimlich

Steve Dixon, Brunel University

Mathias Fuchs, The University  
of Salford

Andrea Zapp, The Manchester  
Metropolitan University

The Chameleons Group, Brunel  
University



*Unheimlich*  
Telematic videoconference performance

## ARTIST STATEMENT

*Unheimlich* is a performance installation for multiple users, linking and visually compositing audience members with live performers in the United Kingdom.

It's 1 am in London, but two enigmatic sisters have stayed up late to see you, and to (telematically) greet you with a kiss as you step into their space, in real time, thousands of miles away. Stand back in the darkness and watch the events unfold, or step onto the illuminated blue carpet to meet and talk to the two siblings, and participate in their eccentric games, secret rituals, and compelling conversations.

Spanning a six-hour time difference, audience participants in Boston are invited into the virtual world of two actors in London. Once on the blue mat, you are visually merged with them on the screens around the space, where you can talk to them, dance with them, ask them questions, or just "hold hands." Metamorphosing graphical backgrounds surround you, from fantastical computer-game landscapes to mundane English sitting rooms, depending on whether the sisters decide to take you on cliff-hanging adventures, or to offer you some tea.

*Unheimlich* is financially assisted by the Arts Council of England.

## TECHNICAL STATEMENT

*Unheimlich* takes Freud's concept of the uncanny as "unheimlich" (at once familiar, homelike, but also strange, alien, and uncomfortable) as its starting point. This drama uses broadband internet videoconferencing to connect audiences and performers in geographically remote locations. Via a system of live chroma-keying, the distant actors are composited within the same telepresent image and share the same stage. Computer-generated backgrounds and virtual environments are determined live and initiate imaginative dialogue and improvisation among the participants and actors.

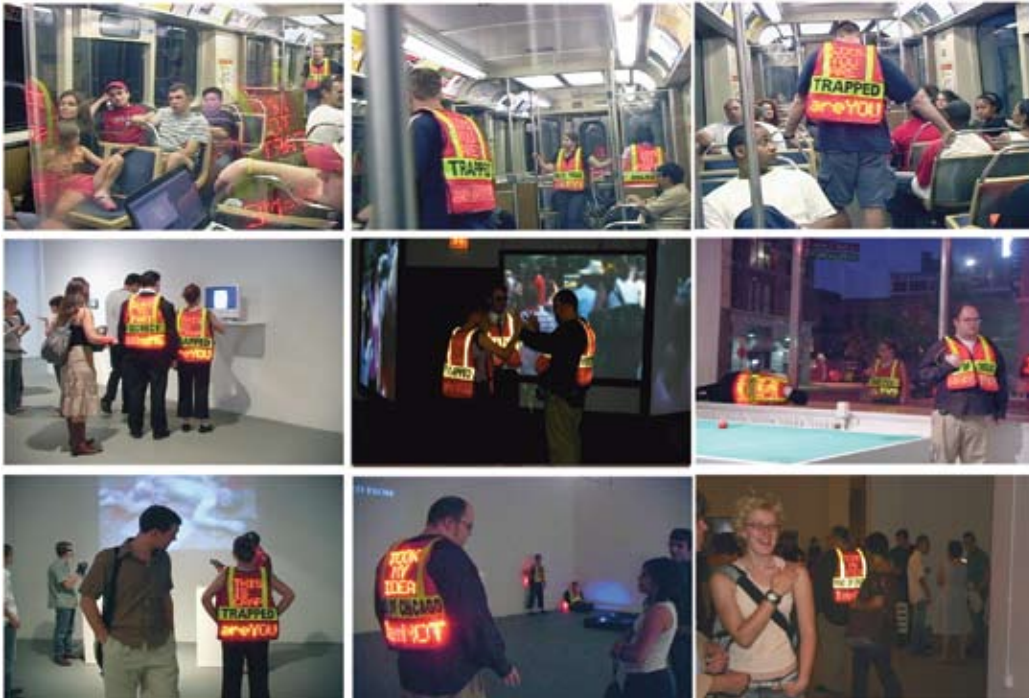
The camera image from London is sent to Boston via an H.323 Internet video-conference connection. This image is received in Boston and chroma-keyed with another camera image and an additional computer background scene. The combined video image, consisting of the computer-generated background, the Boston audience mid-ground, and the London performer foreground, is then presented on video screens around the blue-box stage in Boston. In order to increase the quality and speed of the system, the return image to London is sent without the original foreground layer, which is then added locally when it is received.

# Hoyun Son

## Hoyun Son

School of the Art Institute of Chicago  
1230 North Marion Court, #1F  
Chicago, Illinois 60622-3163 USA

hoyunson@gmail.com  
www.hoyunson.com



*unspoken\_boston\_siggraph (unspoken\_series)*  
Site-specific interactive public performance

### ARTIST STATEMENT

This performance piece includes three municipal safety vests embedded with 840 red and green LEDs in each to show 24 characters per vest. The LEDs are the kind that are generally used to display information in public spaces: crosswalk signals, commuter information, and consumer advertising.

The messages on the front and back of the vests relate to the psychology of the individual within a specific public space. They are the secret thoughts that we urgently hide in public. Instead of expressing those inner thoughts, it is common for people to avoid eye contact and other forms of communication when in close proximity to others. People focus on public information or advertising rather than connecting with other people.

In an earlier version of this work, vests were worn by three individuals who rode an evening commuter train in Chicago. The vests said: "I want to fart ... make me happy." "Took my seat ... I am not happy!" "Look you are trapped ... are you happy?"

In this version, I changed two of the messages to reflect thoughts that attendees might type into a computer inquiry during SIGGRAPH 2006: "Took my idea ... I am not happy!" "This is crap ... Are you happy?"

### TECHNICAL STATEMENT

There is a "flow" to Hoyun Son's materials. There is no hi-tech or lo-tech to her constructions. They channel a desire to create. Instead of merely creating function, they question function. Hoyun Son uses her hands to crochet circuits into the vests, or to stencil words on vests. Technology is politicized and contextualized within time. Crocheting was considered technology centuries ago upon invention, and circuits are currently technology as well, but landline phones are slowly becoming antiquated. Hoyun Son combines different ages within the material to create and overturn notions of time and function, which channels the energy of creativity and, in a sense, creates spontaneity of unification.



# Benjamin Vigoda

## CONTACT

**Benjamin Vigoda**  
Mitsubishi Electric Research  
Laboratories (MERL)  
201 Broadway  
Cambridge, Massachusetts 02139 USA  
vigoda@merl.com  
[www.media.mit.edu/~vigoda/  
mandala/mandala.html](http://www.media.mit.edu/~vigoda/mandala/mandala.html)

## COLLABORATORS

David Merrill  
Shawn Hershey  
Erik Nugent



*MANDALA*  
Musical improvisation mediated by computer graphics



## ARTIST STATEMENT

Computers have enabled widespread changes in how music is created and shared, but in the area of musical notation, innovation has been mainly limited to improvements in the ability to edit conventional sheet music. *MANDALA* is an animated graphical language for guiding improvisation, an electronically mediated game piece, drawing inspiration from the musical and theatrical game pieces of artists such as John Zorn, Viola Spolin, and Del Close. The piece seeks to provide an architecture for musical expression that simultaneously allows for both emotional spontaneity and formal satisfaction.

In the earliest Indo-European religions, “mandala” was the term for a chapter or collection of mantras or chanted hymns. Today, the word more commonly refers to visual artworks with ceremonial and spiritual significance in the Tibetan Buddhist tradition, often composed by multiple monks/artists working simultaneously. Similarly, *MANDALA* seeks to create a spatial/temporal structure for guiding collaborative creativity. To compose with *MANDALA*, we write algorithms that encode a grammar for a set of allowed inter-musician interactions or activities. The instruments employed by the musicians must be flexible enough to allow each musician to play various roles that are proposed to them during the piece. The players gather around a circle of light. Within this circle, are many smaller circles of light in varying sizes and colors. Ornamented, translucent, spinning, these images communicate the structure of a particular musical piece to the participants while simultaneously creating a synaesthetic theater space for the music.

## TECHNICAL STATEMENT

*MANDALA* employs a video projector and Mitsubishi DiamondTouch table to provide an interactive musical notation that all of the musicians can see and interact with simultaneously. The DiamondTouch table multiplexes the rows and columns of its surface with a signal that is capacitively sensed by individual receivers in each musician’s seat, enabling multi-user, multi-hand touch position tracking.

The *MANDALA* grammar is composed of a number of graphical elements representing instructions to the musicians. For example, if a *MANDALA* icon is approaching you, prepare to begin playing abruptly when it reaches your place setting. Similarly, you must abruptly stop when your *MANDALA* icon returns to the center of the table. Fade in and fade out of a *MANDALA* icon represent crescendo and decrescendo, respectively.

Each *MANDALA* icon may also present information (traditional notation, text, a countdown timer, visual imagery, etc.) suggesting an activity to a musician. An arrow from one *MANDALA* icon to another represents temporal dependence and therefore indicates leadership and supporting roles. We have found that a satisfying *MANDALA* piece tends to involve most musicians in both following and leading roles, often at the same time. More generally, we have found that many social interactions in music or violations thereof can be encoded by the presence or absence of various rules in a *MANDALA* composition.

# Ge Wang and Perry R. Cook

**Ge Wang**  
Princeton University  
Department of Computer Science  
35 Olden Street  
Princeton, New Jersey 08540 USA

gewang@cs.princeton.edu  
chuck.cs.princeton.edu



*On-the-fly Counterpoint*  
Interactive performance, real-time sound, music, and graphics

## ARTIST STATEMENT

The performance centers around two new interfaces for musical expression: the Voice-Oriented Melodica Interface Device (VOMID) and the technique and aesthetics of writing code “on-the-fly” to generate sound, music, and visuals.

The VOMID is a massively modified Korg MicroKontrol device, now augmented with sensors for continuous pitch transition, breath sensors, formant control interfaces, and controls that can be mapped to various speech and singing synthesis parameters.

In *On-the-fly* programming, audience members observe the entire process (via projection and sound). They watch the performers write code, and experience the sound, music, and graphics as they evolve. While the observers/listeners may not understand all the specifics of the code, the various on-screen changes can be construed as “gestures” for which there are musical or sonic consequences. *On-the-fly* programming seeks to reveal the intentions and modus operandi of the performers at every stage in the process. Each performance can (and does) differ drastically from another.

## TECHNICAL STATEMENT

*On-the-fly Counterpoint* is constructed piece-by-piece in real time, using the facets of concurrent audio programming and on-the-fly programming in ChuckK. Contrapuntal simultaneities can be separated and compartmentalized into autonomous, concurrent entities. This is part of the authors’ ongoing investigation into using code as an interactive and expressive musical instrument.

The VOMID is suspended by a neck strap on the chest and played somewhat like an accordion. Thanks to Korg, the VOMID sports a 37-note keyboard, 16 programmable touch-sensitive buttons, a joystick, eight rotary pots, and eight slide pots (all programmable). Custom additions to the base controls include a breath-pressure sensor, sensitive to both blowing and sucking. It is mapped to phonation (singing) when blown and breathing sounds when sucked. A linear FSR is located along side the top two octaves of the keyboard and is mapped to continuous pitch control, directly related to the discrete pitches of the keyboard. Finally, inside the VOMID, there is a three-axis accelerometer, which is sensitive to leaning and shaking. The sounds are synthesized and mapped using the ChuckK programming language.

# Gil Weinberg

**Gil Weinberg**  
Georgia Institute of Technology  
840 McMillan Street  
Atlanta, Georgia 30332 USA  
gil.weinberg@coa.gatech.edu

Scott Driscoll  
Travis Thatcher



*Jam'aa for Haile*  
Interactive performance with an improvisational robotic percussionist

## ARTIST STATEMENT

Computer-supported interactive music systems are hampered by their inanimate nature. They cannot provide players and audiences with the physical and visual cues that are essential for creating expressive musical interactions. Such systems are also limited by electronic reproduction and amplification of sound through speakers, which cannot fully capture the richness of acoustic sound.

Our approach for enhancing and enriching human-computer musical interactions is to utilize an anthropomorphic mechanical apparatus that can convert digital musical instructions into acoustic and physical generation of sound. We believe that musical robots can combine the benefits of computational power, perceptual modeling, and algorithmic music with the richness, visual interactivity, and expression of acoustic playing. Interactive musical robots can bring together real-time analysis and response algorithms that are not humanly possible with rich sound and visual gestures that cannot be reproduced by speakers. This kind of novel human-machine interaction can lead to new musical experiences, and new music, which cannot be conceived by traditional means.

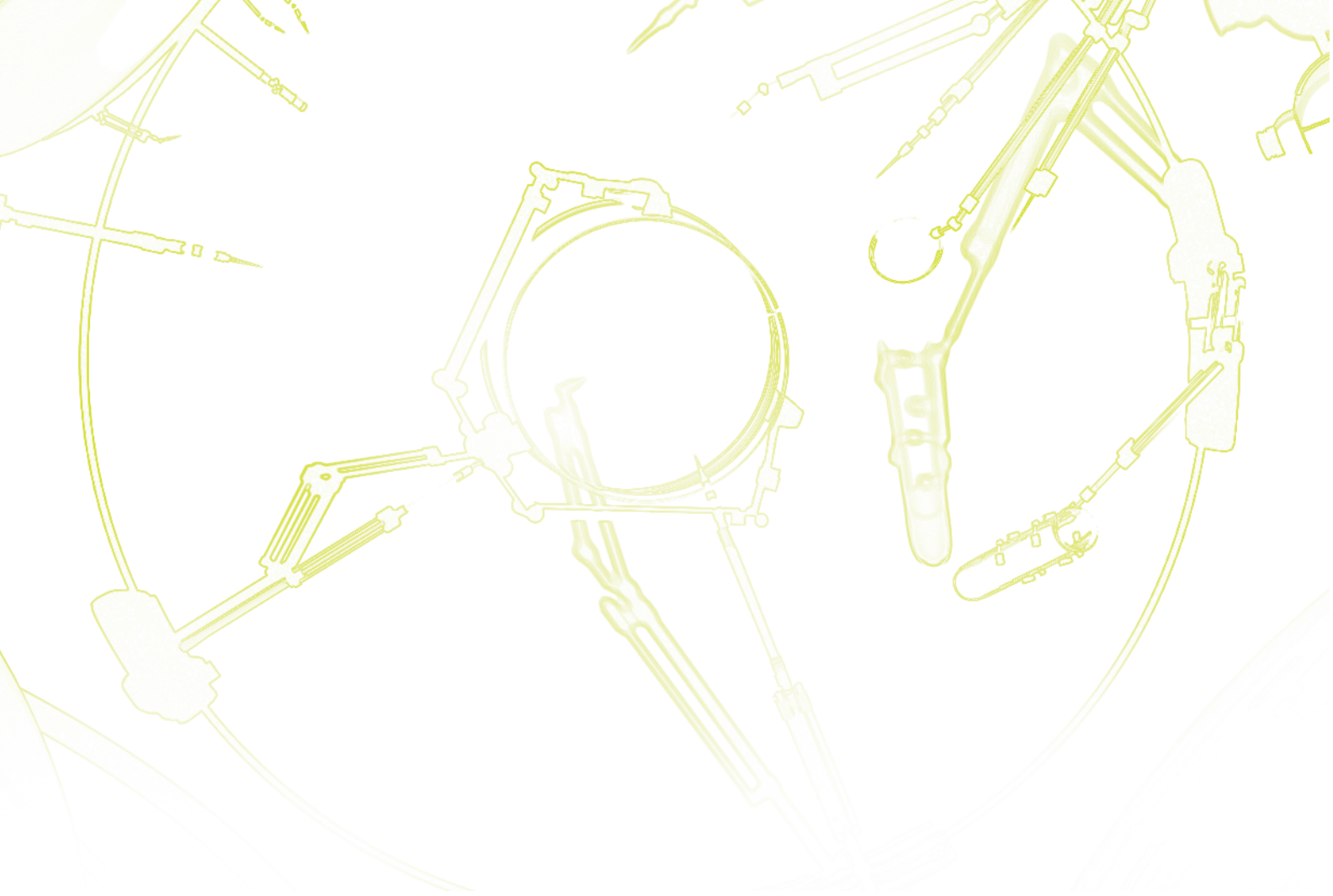
Our first effort in this area is Haile, a robotic percussionist designed to demonstrate musicianship. We define robotic musicianship in this context as a combination of embedded musical, perceptual, and interaction skills with the capacity to produce rich acoustic responses in a physical and visual manner. Haile listens to live players, analyzes perceptual aspects of their playing in real time, and uses the product of this analysis to play along in a collaborative and improvisatory manner. Haile can therefore serve as a test-bed for novel forms of

musical human-machine interaction, bringing perceptual aspects of computer music into the physical world both visually and acoustically. "Jam'aa" is a composition for this type of anthropomorphic robotic percussionist and two human players, designed to showcase Haile's mechanical, perceptual, and musical interaction skills.

## TECHNICAL STATEMENT

Haile listens to audio input via a microphone installed in each drum. Its low-level perceptual-analysis algorithms address aspects such as note onset, pitch, and amplitude detection. Haile can also detect rhythmic beat, density, accuracy, and a number of high-level perceptual aspects such as rhythmic stability and similarity. Based on these detected features, Haile responds by utilizing six interaction modes (programmed in Max/MSP). Some of these modes, such as imitation, stochastic transformation, and perceptual transformation, are sequential. Others, such as beat detection, simple accompaniment, and perceptual accompaniment, are synchronous.

Haile responds by operating its mechanical arms, adjusting the sound of its hits in two ways. Pitch and timbre variety are achieved by striking the drumhead in different locations, while volume variety is achieved by hitting harder or softer. The robotic arms' main hardware components consist of a linear slider driven by a gear motor and hitting mechanisms that utilize a solenoid and a linear motor. Haile's hitter can strike at about 15 Hz with approximately five noticeable volume levels. It can be moved from lowest to highest pitch at 3-4Hz.



# Art Animations

Experimental art animation affects viewers intellectually, emotionally, and creatively through the marriage of audio, image, and time. Rather than literal representation of ideas, art animations engage viewers by enabling them to relinquish the shackles of time, logic, and reason. The SIGGRAPH 2006 Art Animation screening showcases works that include: algorithmic abstractions, visual music-driven narratives, creative juxtaposition of analog and digital techniques, experimental metaphor, motion painting, creative compositing, and time-based collage.



Bret Battey  
 Music, Technology and Innovation  
 Research Centre  
 Clephan Building  
 De Montfort University  
 Leicester LE1 9BH United Kingdom

bret@bathatmedia.com  
 www.BatHatMedia.com

# Bret Battey



*Autarkeia Aggregatum*  
 Art animation, 9:30

*Autarkeia Aggregatum* is an integrated sound-and-image composition emphasizing continuous flow and transformation. There are no cuts or splices in the visual aspect of the work; it unfolds instead as a constantly evolving, massed animation of a set of over 11,000 individual points.

When seeking a title for the piece, I turned to the Monadology, the philosopher Leibniz's theory of fundamental particles of reality (monads). I appropriated two words from that work: *autarkeia* (Greek) for self-sufficiency, and *aggregatum* (Latin) meaning joined, aggregated. The terms together appropriately suggest an aggregation of the activities of autonomous entities. More subtly, a resonance with Classicism draws me to the words. The resonance is one of an inner fullness of being expressed outwardly in elegant, self-sufficient restraint.

The animation technique involves various rotational algorithms, constrained Brownian motion, and time blurring. I initially developed the visual effects method in Processing, the Java programming environment. I then translated the algorithm into a plug-in for Apple's Motion 2 video effects software.

I produced the sound with the help of the synthesis languages Common Lisp Music and Common Music and my own Pitch Curve Analysis and Composition toolkit.

## *Hardware and Software*

Macintosh G5 Dual Processor 1.8 Ghz, Apple Motion 2 with custom filter plugin, Common Lisp Music, Common Music, PICACS, Digital Performer.

**Stéphane Berla**  
LN Production  
18, rue Duhesme  
75018 Paris, France

cafe.bouillu@free.fr

# Stéphane Berla



*Café Bouillu*  
Art animation, 3:40

A cut-out paper person revolves in a merry-go-round. Progressively, he realizes that his universe is not the thing that's spinning.

## *Contributors*

Georges Hanouna, LN Production, producer  
MagicLab, animation  
Jean-François Coen, music  
Alexis Zabe, director of photography  
Yann Le Verre, set designer

# Lucy Blackwell

**Lucy Blackwell**  
Upsidedownit  
517 East 12th Street, Storefront East  
New York, New York 10009 USA

lucy@upsidedownit.com  
www.upsidedownit.com



*Alive*  
Art animation, 3:00

Two insects are born into a luscious, alive world of food. As they explore their home, they realize they are living inside a tiny bubble. One of the insects decides it's time to escape. In the process of breaking out of their protective little bubble, the "alive" vibrant world becomes polluted, and the trapped insect suffers the consequences. How we personally affect one another directly affects the environment we live in.

The food animations were created using a high-end digital still camera that captured the pictures directly to the computer frame by frame. By capturing the frames at a higher dpi than video, I could take the image sequences into AfterEffects, scale them, and extensively manipulate them without losing quality in the final output.

## *Hardware and Software*

Digital still camera, G4 Powerbook, Adobe After Effects, Canon Remote Capture, Framethief

## *Contributor*

David Agrell, composer

Virginie Giachino  
Production Assistant  
130, rue Saint Maur  
75011 Paris, France

info@doncvoila.net  
www.doncvoila.net/prudence

# Joris Clerté and Philippe Massonnet



*À tort ou à raison*  
Art animation, 3:02

Three people talk around a restaurant table, and what appears to be a static drawing on the table comes alive and begins to sing. Although the animated characters are simple line drawings, they express emotion and help convey the meaning of the song. *À tort ou à raison* uses a combination of live action and 2D animation.

## Contributors

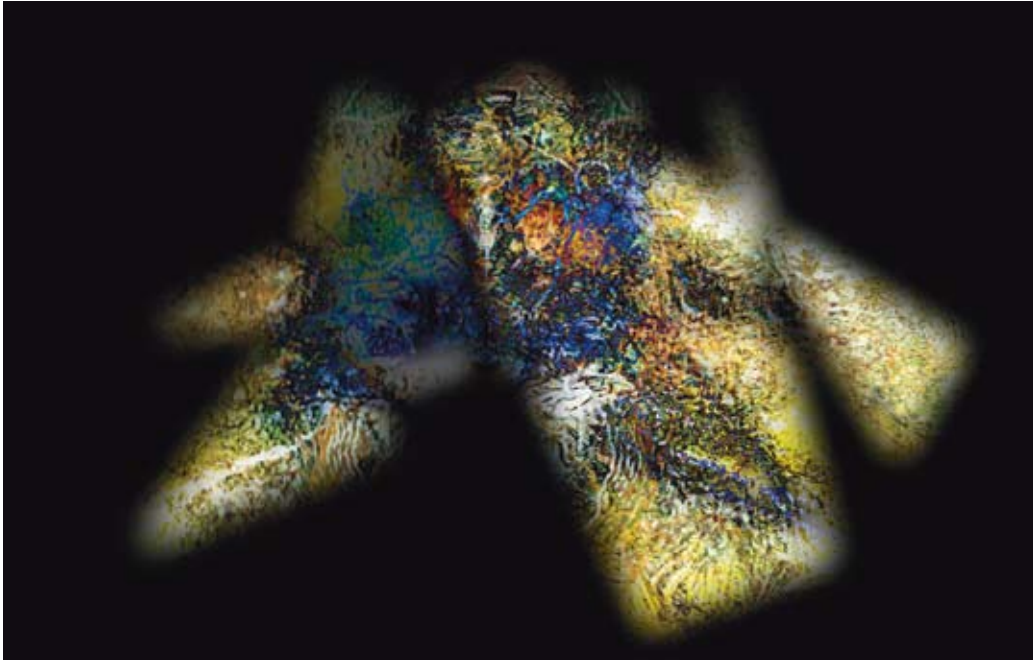
Doncvoilà, producer  
Joris Clerté, screenplay  
Philippe Massonnet, animation  
Prudence, music



**Madeleine Belisle**  
 National Film Board of Canada  
 3155 Cote de Liesse  
 St. Laurent, Québec H4N 2N4 Canada

festivals@nfb.ca

# Jean Detheux



*Rupture*  
 Art animation, 3:17

This short abstract film with dark accents appears like a fleeting dream in which forms come and go like ghosts in the midst of nocturnal chaos. It was created by way of an original approach to digital animation (“fortuitous accidents”) based on an unusual exchange between director/ animator Jean Detheux and composer Jean Derome. With no storyboard, no preconceived idea of where to go, Detheux gave Derome a silent clip to set music to. Detheux then took that music and made new images for/from it. Derome took the new images and made new music for them, and so on, until Detheux and Derome had about 50 minutes of original material to work with. Editing produced two films, *Liaisons* (9 minutes) then *Rupture* (about 3 minutes).

## *Hardware and Software*

Power Mac 95, Synthetik Studio Artist, Apple Final Cut Pro, Corel Painter.

## *Contributors*

Marcel Jean, National Film Board of Canada, producer  
 Jean Derome, original music

**Patrick Doan**  
 Concordia University  
 Montréal, Canada

info@defasten.com  
 www.defasten.com

# Patrick Doan



*TRANSREC*  
 Art animation, 4:25

*TRANSREC* is a haunting look at the nature of transitional spaces, travel theory, and by extension, their relationship to the subconscious abstraction. The environmental desensitization induced by transient spaces suggests that transitioning extends and creates in itself enduring spaces. This phenomenon is founded on the dissolution of physical signifiers which in turn, on the surface, result in seemingly fleeting experiences. In this state, introspection jumps to the foreground, and the mind runs unfettered to the boundaries imposed by individual experience and cognitive knowledge.

## *Hardware and Software*

Adobe Photoshop, Illustrator, After Effects, Premiere Pro, Cinema 4d, Reaktor, Cubase.

## *Contributor*

Jeff McIlwain (aka LUSINE), sound artist

**Madeleine Belisle**  
 National Film Board of Canada  
 3155 Cote de Liesse  
 St. Laurent, Québec H4N 2N4 Canada

festivals@nfb.ca

# Chris Hinton



*cNOTE*  
 Art animation, 6:45

*cNote* is an exuberant creative synthesis of picture and sound, animation and music. Filmmaker Chris Hinton stretches his formidable animation skills in this work, where the dynamic movement of his visual art dances in syncopation with the bold musical strokes of an original composition. This music was created expressly for *cNote*, as a creative counterweight for Hinton to work against and with. In this animated pas de deux, Hinton and Montréal-based composer Michael Oesterle leap back and forth between picture and sound, building, tearing down, and rebuilding until the film exists only as an integrated and unified “one.” A film without words.

## *Hardware and Software*

CTP, Photoshop, Toon Boom, ACDSee, Painter, HP XW8000 Workstation.

## *Contributors*

Michael Fukushima, National Film Board of Canada, producer  
 Michael Oesterle, original music

## *Musicians:*

Isabelle Bozzini (cello), Marc Couroux (piano),  
 Isabelle Fortier (harp), Lori Freedman (bass clarinet),  
 Philip Hornsey (percussion), Philippe Keyser (drum set),  
 Clemens Merkel (violin)

Susan Gourley, digital imaging specialist

**Teppei Kuroyanagi**  
 303 Seifu, Apartment 7-26-1  
 Amanuma Suginamiku  
 Tokyo 167-0032 Japan

info@nipppon.com  
 www.nipppon.com

# Teppei Kuroyanagi



C++  
 Art animation, 8:50

C++ shows the difficulty and weakness of human communication in a modern Japanese society. In a world where people actually do not communicate with each other face to face, it is very important to rethink what the word “communication” really means. Today people are living in an artificial condition on the internet that results in problems such as loss of identity and personal accountability. Words are almost meaningless when people blame, punish, and slander others repeatedly. The animation, C++, explores society’s value systems in regards to personal communication and responsibility.

## Hardware and Software

Mac G5 1.8G, Windows 2Ghz, Illustrator, Photoshop, After Effects.

## Contributors

Ueda Tomomi, assistant director  
 Takahide Higuchi, sound design  
 Nezu Project, sound mix  
 Nobutaka Sumiya, 3D CG



**Pierre Hénon**  
 ENSAD  
 31, rue d'Ulm  
 75240 Paris, France

aii@ensad.fr  
 www.aii.ensad.fr

# Luis Nieto



*Oreille remplie de plumes*  
 Art animation, 2:32

An animation about beauty and hysteria in relation to food as unsatisfied pleasure. With original music by the director, it explores contemporary love, in a lovely post-modern triangle. Nobody is satisfied.

## *Hardware and Software*

PC, Adobe After Effects, Adobe Photoshop, 3ds Max, Protools.

## *Contributor*

ENSAD, producer

**Pierre Hénon**  
 ENSAD  
 31, rue d'Ulm  
 75240 Paris, France

aih@ensad.fr  
[www.ensad.fr/animation](http://www.ensad.fr/animation)

# Grégoire Pierre



*Akkad*  
 Art animation, 7:17

Concentrated populations, mass transportation, architecture, and town planning are the main causes of people's isolation, drowning them in a hurried crowd. In western society, individualism, lack of communication, solitude, behaviour standardization, and the imposed routine of big-city rhythms should lead us to think about our way of life and the importance of human relationships.

## *Hardware and Software*

PC, Mac, Photoshop, After Effects, Final Cut Pro.

## *Contributors*

ENSAD, producer  
 Nicolas Bridier, music

**Dave Schwan**  
 411 Eagle Point Road  
 Rossford, Ohio 43460 USA

daveschwan@gmail.com  
 www.daveschwan.com

# David Schwan



*Time Away*  
 Art animation, 2:56

*Time Away* is an abstract representation of the psychological change that occurs during creation of a work of art. The change begins slowly, while the artist's mind is distracted by everyday thoughts. As the artist continues to work on the piece, thoughts begin to dissipate, and the mind begins to free itself. Instinctual creative processes begin to take over.

The audio was created using traditional and electro-acoustic audio techniques. All sampled sound originated from the violin via traditional bow techniques as well as experimental methods such as banging on, scratching, and scraping. The sound files were digitally manipulated and arranged to create a composition.

## *Hardware and Software*

Adobe Photoshop, Adobe After Effects, DSP Quatro, Logic Pro.

## *Contributors*

Sean Hagerty, violinist  
 Bonnie Mitchell, Bowling Green State University, advisor  
 Elaine Lillios, Bowling Green State University, advisor  
 Gregory Cornelius, Bowling Green State University, advisor

**sin sin**  
 Krom Boomssloot 90  
 1011 MC Amsterdam, The Netherlands

sinsin44@hotmail.com  
 www.sinsincollective.com

# sin sin



*Inside the Dishwasher*  
 Art animation, 2:47

The soundtrack is derived from Shopping Channel spiel. The recontextualised images have a Pop sensibility and speak of the urban experience as it passes through the lens of the media and back again, to and fro across the ether. A regurgitation of imagery ensues. Television, television advertisements, branded products, dog toys, underpants, vacuum cleaners, and the Howdy Doody Doll. And shoes. Lots of high-heeled shoes. And men in white coats. For a moment, we become the perfect housewife.

#### *Hardware and Software*

Flash, Poser, Photoshop, Premiere, Cool Edit Pro.



**Florian Witzel**  
 Fraunhofer Institut  
 Seilerberg 7  
 94086 Griesbach, Germany

info@falofantioch.com  
 www.falofantioch.com

# Florian Witzel, Magid Hoff, Stephan Betz



*Fall of Antioch*  
 Art animation, 3:22

The film is an experimental music video created for the musician Mike Paradinas, also known as “μZiq” at the University of Applied Sciences Nuremberg, Germany. The main idea came from listening to the music on the Windows Media Player with the Particle Visualisation engaged. It inspired us to create images of a deserted urban landscape with pixels falling from the sky and splattering on the environment. The juxtaposition of this phenomenon with slow-motion cinematography and attention to peripheral details (shadows on walls, street lights, exposed electrical wiring, etc.) combine to create an eerie sense of defamiliarization. From there on, we developed the story of one moment in a person’s life. With the theme for the video, we set off across Europe from Frankfurt to Nuremberg via Vienna to Bratislava to capture images inspired by the music and the places.

## *Hardware and Software*

Sony VX2100, Panasonic DVC Pro 50, Fuji S3 Pro, AMD Dual Opteron 250, Softimage XSI, After Effects, Inferno, Avid, Photoshop, da Vinci 2K Plus.

## *Contributors*

Vi Nguyen, actor  
 Mike Paradinas, [Planet Mu Records], music  
 Florian Wolf, [Pictorion - Das Werk], da Vinci operator  
 Florian Decker, [Pictorion - Das Werk], Inferno operator  
 Ute Engel, [Pictorion - Das Werk], Inferno operator  
 Adam Glauer, [Pictorion - Das Werk], DVD authoring  
 Jürgen Ernst, [Fraunhofer Institute], technical support  
 Lilo Pöferl, [p+s technik], technical support  
 Christian Mössner, [AVA Studios], technical support  
 Matthias Fleischmann, [Beimann Cineastic], technical support

## *Special Thanks*

Jürgen Schopper, Gerhard Walliczek

Produced at the University of Applied Sciences Nuremberg

**Sil van der Woerd**  
Microbia  
st. Antonielaan 244  
6821 Arnhem, The Netherlands

[silvanderwoerd@gmail.com](mailto:silvanderwoerd@gmail.com)  
[www.microbia.nl](http://www.microbia.nl)

# Sil van der Woerd



*Swim*  
Art animation, 4:47

In a time where all is designed to be controlled, the elementary force of our very existence brings an undeniable fusion for a magic moment. This short film is simply about the power that brings us all to life. The digital, synthetic, modern labs created for *Swim* are designed as a film set, to interact with live-action footage that I shot in front of a blue screen. I used the motion-tracking technique to create a convincing modern space. I tried to create a strong atmosphere in the design for *Swim*, to add an organic feeling to the clinical world.

## *Hardware and Software*

Maya 6.0, Pixel Farm Tracker, Adobe After Effects 6.5, Final Cut Pro, Adobe Illustrator CS, Adobe Photoshop CS.

## *Contributor*

Tim Meijer, sound engineer



# Charles A. Csuri: Beyond Boundaries, 1963 – present

The SIGGRAPH 2006 Art Gallery hosted the first extensive retrospective of the work of computer graphics pioneer, Charles A. Csuri. This exhibition featured over 75 works of art, including early analogue and plotter images, large-scale digital prints, 3D rendered images, interactive media, recent computer animations, and more.

## Charles A. Csuri: Beyond Boundaries, 1963 - present

*"Csuri's work is an exception, and it would be difficult to deny that he combines a disquieting nuance of meaning with an extraordinary degree of technical virtuosity, thus succeeding in speaking in a language that seems to come from the future."*

- Maurizio Calvesi, Art E Dossier, Novembre 1990

*Beyond Boundaries* is an extensive retrospective exhibition that celebrates the life and work of The Ohio State University Emeritus Professor Charles A. Csuri, recognized by *Smithsonian Magazine* as the "father of digital art and animation." The show examines and historically contextualizes Csuri's computer art from 1963 to 2006. The artist's varied research and artistic periods are defined and explored within both the computer graphics and art historical contexts. The exhibition includes Csuri's first plotter drawing, previously unseen samples from the artist's sketchbook, preserved real-time animations, rediscovered works from the early period, examples from the *Infinity Series*, recent works, and more.

Charles Csuri's computer art, to date, can be divided into four general phases: an early period (1963–mid-1970s), a middle period (late 1980s–early 1990s), a later period (mid-1990s–early 2000s), and his recent works (2002–2006). Csuri's art from the early period involved the use of mainframe computers, punch cards, analogue devices, and plotter printers. Experimentation with analogue devices produced nine innovative and historically based works, now referred to as the *After the Artist Series*. These transformations on drawings referenced the work of great masters, such as Paul Klee, Pablo Picasso, Piet Mondrian, Paul Cezanne, and others. Using the sine function, he experimented with plotter drawings and produced the timeless *Sine Curve Man* (1967) and *Sinescape* (1967). Csuri generated moving art in the form of real-time art objects, like *Lost Fish* (1971) and fragmentation animations and early image "morphing," such as *Hummingbird* (1968), which now resides in the Museum of Modern Art, New York. He pushed the creative boundaries of random number generators, producing works as compelling and timely as *Random War* (1967).

After nearly two decades of research and commercial work with the Computer Graphics Research Group (CGRG) at Ohio State and Cranston/Csuri Productions, Inc., a computer graphics company he co-founded, Csuri returned to his artistic endeavors in the late 1980s and produced many lively and expressive, but lesser-known works,

referred to in this exhibition as the "middle period." Interestingly, art from the middle period is comprised entirely of still images. As Csuri reacquainted himself with computer technology and its potential for creative expression, he first explored the use of texture and bump mapping. *Faces* (1990) and the award-winning *Mask of Fear* (1989), among other works, demonstrate a close integration of more than two decades using traditional artistic mediums, such as oil painting, with the technological innovations of the time. The colors are deep and saturated, the compositions immediate and bold. Most of Csuri's art from the brief, latter part of the middle period, relied on a small body of human forms and demonstrated a preliminary engagement with AL, software developed by Steve May.

Mastery of this software ushered Csuri into his third phase of artistic creativity, from the mid-1990s to the early 2000s. This period was marked by increased subtlety and playful experimentation with form and space. Ribbons flow like calligraphic lines in the well-known *Horse Play* (1997), and glass females seem to dematerialize from their own internal energy in *Raphael Voglass* (2000). It was during this period that Csuri's art, once again, incorporated movement, as he developed animations and VRML works. Other experimentation resulted in a one-man exhibition of virtual glass art in 2000.

Csuri's recent works (2002–2006) are a natural extension of the later period. As before, they incorporate mythic elements, garden themes, and increasingly subtle beauty, as seen with *Venus in the Garden* (2005). Many of his tools are familiar, yet the outcome of their use becomes ever more delightful, unpredictable, and intriguing, as seen with works from the *Scribble Series*, *Entanglement* (2002), and *Festive Frame 47*, *leo Series* (2006). Csuri also revisits his interest in randomness, chance, and chaos through his *Infinity Series* and other generative art.

What will Csuri do next? For those who know and follow Charles Csuri's work, this retrospective exhibition speaks as much of an unforeseen future as it does of the past.

Janice M. Glowski, Curator

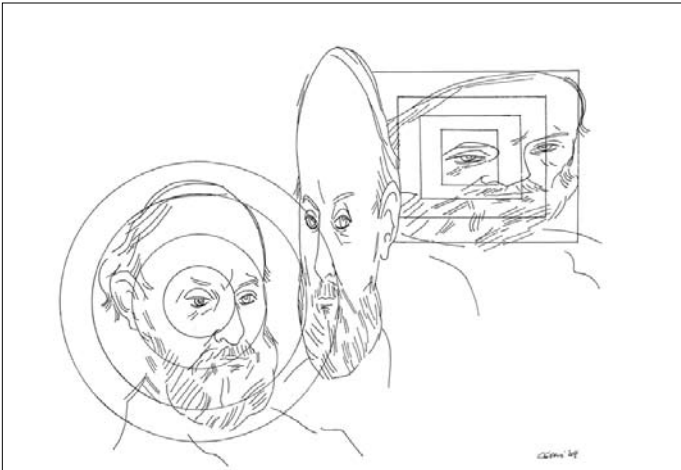


## Endless Possibilities

I work with my computer as a creative partner—a creative search engine that generates many representations of a single theme. We play games with one another about who is in charge. The order of the control is determined by factors that have the promise of multiple solutions to an idea. Most importantly, relationships that may be absurd are created. But, in the end, they offer the promise of surprises and solutions I might not have considered.

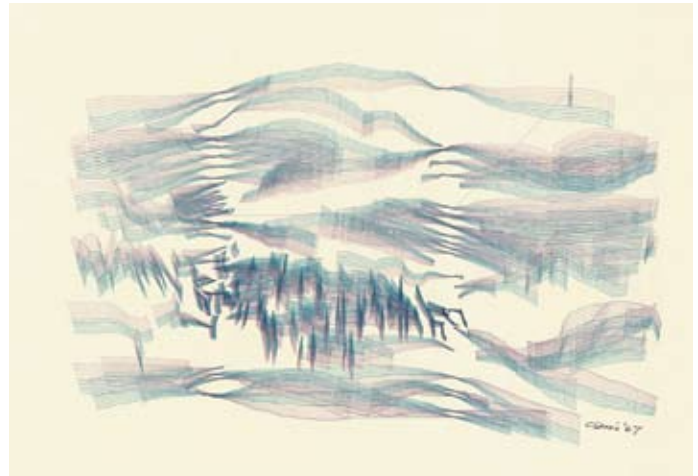
My concept of control is a hierarchical one, where I set the initial conditions for objects or characters and the environment. The algorithms I use are tools in a chain of command. So, with the computer's assistance, these conditions serve as constraints that dynamically alter position, scale, geometry, color, and surface properties. I do not have an algorithm for visual structure, beauty, or the content. But there are behaviors, or rules, which I establish at an intuitive level. These come from my experience as an artist working with traditional media. Those many years of *impasto* painting and drawing are a part of my makeup as an artist. Even with the computer, I visually draw and paint. I see objects living within a three dimensional world space of parameters for color, light, changes in geometry, or even symbolism. Things work best when I am able to transcend computer code and forget about the medium. My non-linear world is designed to be inconsistent and unpredictable, which gives me the freedom to play and search for art.

**Charles A. Csuri, Artist**



*After Paul Cezanne*  
Black ink on paper  
25 inches x 35 inches  
Analogue computer drawing  
1964

I made a drawing of a Cezanne self-portrait. A pantograph-like device was used to create the transformations on the drawing. The device enabled me to make variations between an ellipse, a circle, and a square. Cezanne's eye and the square symbolize Cezanne's link to modern art and Cubism.



*Sinescape*  
Color ink on paper  
24 inches x 30 inches  
Plotter drawing  
1967

The sine curve function was applied to my sketch of a landscape. After some experimentation with frequency and offset parameters, the landscape took on a more abstract and graphic quality. The variation in color was a consequence of simply changing the plotter pen's color.



*Faces*  
Color ink on paper  
30 inches x 40 inches  
1989

In the late 1980s and early 1990s, I used my paintings as texture maps. The technique of bump mapping was also used to give emphasis to surface properties and the irregular quality of the painting. Parameter changes suggest different instances in time.



*Dance of the Sorcerers*  
Color ink on paper  
30 inches x 40 inches  
ca. 1989

The color is determined by a bounding box of color. I can set colors and regions in the box. An atmosphere is used with the background objects. The cluster parameter in fragmentation enabled me to displace the figure in large sections.



*Gossip*  
Cibachrome  
30 inches x 40 inches  
1990  
Winner Ars Electronica Award

I used basic objects—one is a torso and the other a sphere. The fragmentation routine was used on the torsos. A displacement parameter set the distance and another one makes fragments as clusters of polygons. My oil painting provided the color and surface properties as a texture map.



*Political Agenda*  
Cologram  
24 inches x 24 inches  
2000

My ribbon tool generated the lines, which go through the vertices of the building. The building is immersed in a bounding box of color. A glass shader provides the optical qualities of a glass sphere. Another shader was used on the background object, which enables me to make modulations of color on the surface.





*Raphael Voglass*  
Color ink on paper  
65 inches x 45 inches  
2000

A painting by Raphael inspired this work. Here is the same basic pose with the figure. My fragmentation tool was used. Only parts of the figure were displaced, which serve as a transition from 2D to 3D space. Additional copies of the figure were made to cast shadows "only."



*Entanglement*  
Color ink on canvas  
48 inches x 65 inches  
2002

A ribbon-like function, as patches, uses the vertices of 3D data. A B-spline function determines the curvature as the ribbon moves through the list of points. The sense of space is emphasized by setting the field of view at 90 degrees instead of the usual 45 degrees. The world space was basically subdivided into three horizontal bands of colors.



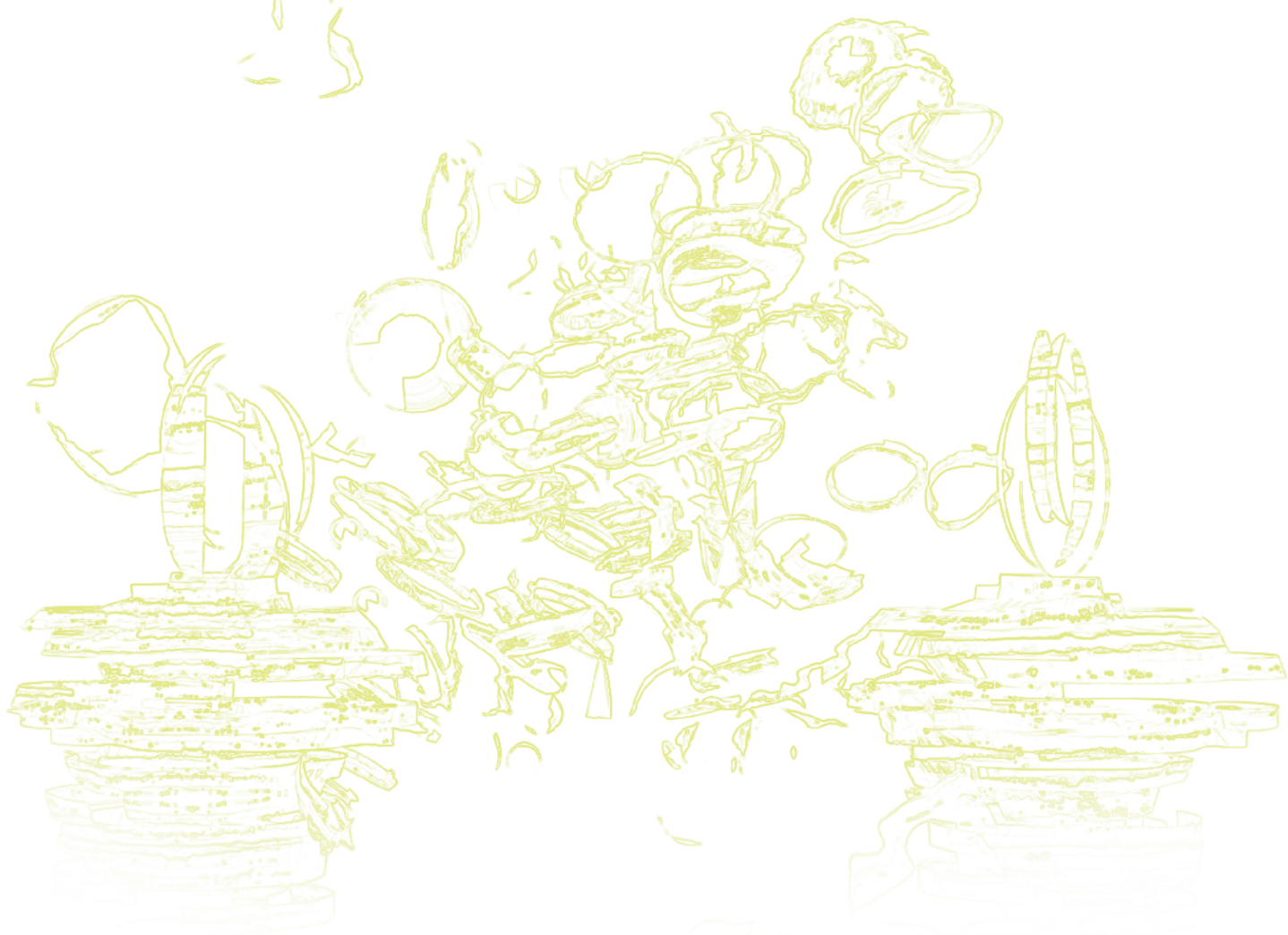
*Venus in the Garden*  
Color ink on canvas  
48 inches x 65 inches  
2005

The 3D data set for the Venus figure is represented as a solid polygonal figure, a line drawing, and the blades of a simple plant. A fragmentation function was applied to other objects, while atmosphere enhances the spatial quality. Shadows also contribute to a sense of space.



*Festive Frame 47, leo Series*  
Color ink on paper  
72 x 96 inches  
2006

There are 30,000 objects in this scene, all viewed from a fixed camera position in 3D space. A fragmentation function applied to a solid polygonal object uses randomness within ranges set by noise parameters. Unlike most pictures the closer one moves into the scene, the greater the sense of space and light.



# Art Panels

Seeking to challenge the SIGGRAPH audience intellectually and creatively, the SIGGRAPH 2006 Art Panels explore contemporary, historical, cultural and social issues in the field of digital art. Pioneers and researchers in computer graphics, genetic algorithms and interactive art discuss and debate the development of art in the digital realm while contemporary theorists and artists look at how computer art has and will transform our existence.



## Art Panels

### Locative Media: Urban Landscapes and Pervasive Technology Within Art

*Chair*

**Michael Salmond**

School of Art, Northern Illinois University  
USA

*Panelists*

**Hasan Elahi**

School of the Arts, Rutgers University  
USA

**Mike Phillips**

Institute of Digital Art and Technology, Plymouth University  
United Kingdom

**Carlos Rosas**

School of Visual Arts, Pennsylvania State University  
USA

Locative media: the utilization of pervasive, portable, networked, location-aware computing devices that allow for user-defined mapping and artistic intervention within urban geographies, transmuting them into an experimental canvas. This panel examines the current or future state of locative media practice, establishing an artistic and theoretical discourse on pervasive computing. The advent of an always-on, always-accessible information sphere creates an enhanced reality space that enables connected artists to work within different spaces and geographies, creating work that is simultaneously global and local. Can we shift the balance of power, redistributing media control so as to create an open space where public art, social projects, and free expression can flourish?

### Beyond Brush and Easel: The Computer Art of Charles A. Csuri from 1963 to present

Opening comments by John Finnegan, SIGGRAPH 2006 Chair

*Chair*

**Janice M. Glowski**

Curator, *Charles A. Csuri: Beyond Boundaries, 1963 to present*  
The Ohio State University  
USA

*Panelists*

**Margit Rosen**

Kunsthochschule für Medien Köln  
Germany

**Bruce Wands**

School of Visual Arts  
New York, USA

**Charles A. Csuri**

The Ohio State University  
USA

This panel explores the computer art of Charles A. Csuri, an artist, recognized by *Smithsonian Magazine* as “the father of digital art and animation,” and includes discussion of his works from 1963 to the present. In this rare opportunity, we will also hear reflections from the pioneering artist himself, now Professor Emeritus and Artist in Residence at The Ohio State University. This art panel is presented in conjunction with the retrospective exhibition, *Charles A. Csuri: Beyond Boundaries, 1963-present*, which is shown for the first time at SIGGRAPH 2006.

# Art Panels

## Generative and Genetic Art

*Chair*

**William Latham**

Leeds Metropolitan University  
United Kingdom

*Panelists*

**Karl Sims**

GenArts, Inc,  
USA

**Yoichiro Kawaguchi**

The University of Tokyo  
Japan

**Andy Lomas**

Framestore CFC  
United Kingdom

This panel brings together leading experts of generative and genetic art from the past 25 years, all of whose work has been featured at the annual SIGGRAPH conferences during this period. The panelists examine a range of topics including: “chance and creativity,” “can art be an equation?” “the procedural and generative software toolbox,” “artist as god,” “the creative peaks and troughs of traveling through multidimensional parameter space,” and “genetic art into genetic engineering?” With the growth in multicore computer systems (including games consoles) that are well suited for procedural and generative processes, the panel explores avenues for these genres in 2006 and beyond.

## New Interactions: Communities and Information

*Chair*

**Ian Gwilt**

School of Design, University of Technology, Sydney  
Australia

*Panelists*

**Melinda Rackham**

Australian Network for Art and Technology (ANAT)  
Australia

**Paul Vanouse**

University at Buffalo, Carnegie Mellon University  
USA

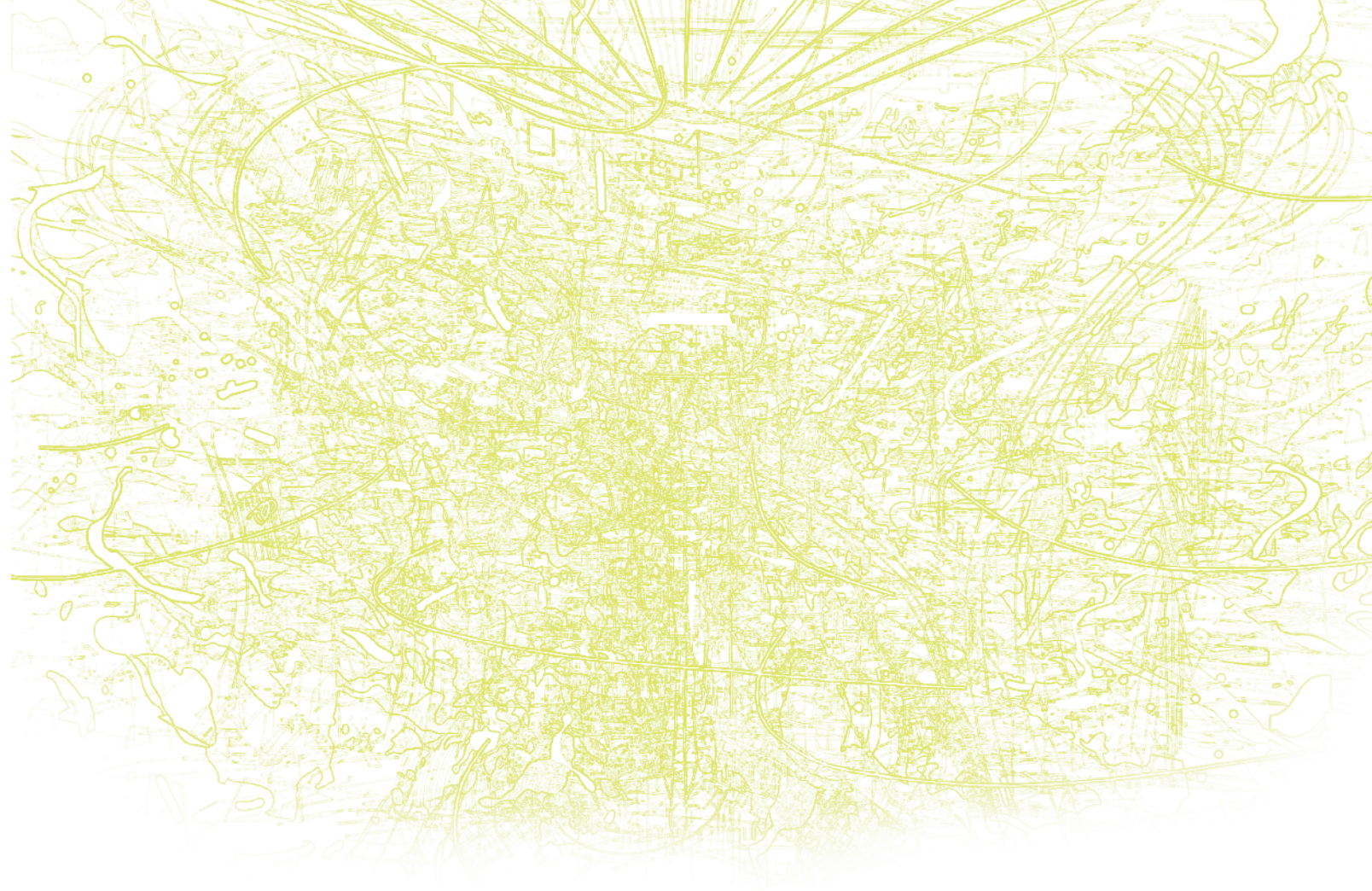
**Ernest Edmonds**

University of Technology, Sydney  
Australia

**Ted Selker**

MIT Media and Arts Technology Laboratory  
USA

In coining the phrase “relational aesthetics,” the contemporary French art theorist and curator Nicolas Bourriaud attempted to define a trend in creative works that configures interactive scenarios in which everyday experiences are the catalyst for audience-driven participation. This panel explores how the tacit activities of urban living are being used to form the foundations for new types of interaction that exploit community life and information-rich environments. Topics include how “relational interaction” can be facilitated by the potential of new-media technologies to simultaneously create multi-layered datascapes and intimate, culturally specific participatory situations.



# Theoretical Art Papers

The SIGGRAPH 2006 Theoretical Art Papers address contemporary and historical issues that force us to stop and rethink our approach to digital art and exhibition. Internationally renowned researchers, artists, authors and curators explore ideas such as interactive art exhibition, new forms of animation, the craft of digital art, digital painting and spatial representation.

ART PAPERS CHAIR

**Paul Brown**

Australia



# Flashimation: The Context and Culture of Web Animation

## Introduction

On October 15, 1997, the first-ever cartoon produced solely for the web made its premiere [Sullivan 1997]. Spumco, a Hollywood-based animation house formed by “Ren & Stimpy” creator John Kricfalusi, commonly known as John K., produced the first installment of *The Goddamn George Liquor Program* after experimentation with Marcomedia’s popular animation and interface-development program, Flash [Tanner 2001]. Although only eight one-minute episodes of the program were produced, the web cartoon launched a new style of animation, which has since earned an unofficial nickname: “Flashimation.” The purpose of this paper is to explore the origins and effects of this type of animation; examine the forces that turned animators towards the web, its visual style, and the meanings with which it is associated; and the effect Flashimation has had on modern animation and the current animation community.

Several threads of thought explain the evolution and culturalization of the new-media phenomenon known as Flashimation. Television animation, increasing access to and preference for the internet, the technological restrictions of this new medium, and the availability of animation software itself have coalesced to produce a major change in the cultural reconceptualization and consumption of modern animation. Collectively, they explain a complex and layered transition from “kid-vid” cartoons to short and crude forms of sophomorically humorous animation produced specifically for an adult audience.

## The Roots of Flashimation

An underpinning of Flashimation in Western culture can be traced to the years immediately following World War II as concisely described in Charles Solomon’s *Enchanted Drawings: A History of Animation* [1989]. By 1947, movies were losing patronage for the first time since the depression [Sklar 1994]. Contributing to this decline was the rise in popularity of the television in the 1950s. As the “small screen” proliferated into American households, MGM Animation was among the first studios to close because of rising production costs. As a result, two of their director-producers, Joseph Barbera and William Hanna, were forced to lay off their entire staff of artisans [Solomon 1989]. To survive as animators, they turned to television to create economically viable cartoons using limited animation, a streamlined technique of breaking down characters into efficient pieces, which reduced the time required to draw the images [Corsaro 2002]. Limited animation in combination with ambitious production schedules was able to reduce the cost of a half-hour of cartoon production from USD \$40,000 to \$3,500 per episode, making animation practical for television broadcast [Solomon 1989]. This television animation, notably including “The Flintstones,” “Yogi Bear,” and “Gumby,” was initially innovative.

## Dan L. Baldwin

Computer Graphics Technology  
Purdue School of Engineering  
and Technology, IUPUI  
danbaldw@iupui.edu

## John B. Ludwick

New Media  
Indiana University School of Informatics,  
IUPUI  
jludwick@iupui.edu

## Michael S. Daubs

PhD Candidate  
Faculty of Information and Media Studies  
The University of Western Ontario  
mdaubs@uwo.ca

However, limited animation did not showcase the sweeping, life-like forms of full animation popularized by Disney. Instead, broken, two-dimensional puppets pieced together with a heavy exploitation of dialogue filled empty airtime on television. Emphasis was placed on dialogue rather than the visual elements that had to be produced a frame, or several frames, at a time. The result was clever writing supported by limited visuals. It could be said that the catalyst for form in early television animation was “airtime.”

When cartoons were moved to fill Saturday-morning timeslots, they did better in the ratings, though they were designed to be seen in prime time [Solomon 1989]. The limited-animation form, the cartoons’ content, and the timeslots in which they were available sent a cultural message: “Cartoons are for kids.” Commenting on the state of television animation, the Warner Brothers director Friz Freleng stated: “TV is such a monster. It swallows up all this animation whether it’s good or bad ... The networks don’t look at the show, they just look at the ratings. If the ratings are good, to heck with the show. They don’t care whether it’s just a bouncing ball” [Solomon 1989].

Regardless of quality or content, the public’s demand for more animation increased as the 1970s approached. In attempts to fill the voracious appetite of television airtime and shorten production schedules, animation became even more limited. This prompted the animation community to dismiss television animation as nothing more than “illustrated radio” [Solomon 1989].

In the 1980s, cable television emerged with incredible airtime demands that exceeded the decade before a hundredfold. Immersed in this demanding production scheme was animator John Kricfalusi, who worked on Ralph Bakshi’s “New Mighty Mouse” cartoon. Although he was a successful and talented modern animator, Kricfalusi was versed in animation history [NNDB 2005]. It was this connection of the past and the present that led Kricfalusi to develop one of the most successful animation franchises of the 1990s, “Ren & Stimpy,” for the Nickelodeon network. When he began production in 1991, Kricfalusi used the opportunity to both parody and revive 1940s animation and couple it with parodies of the limited cell animation made famous by Hanna-Barbera [Goodman 2004].

Kricfalusi quickly became known as a controversial renegade because of his belief that if the narrative inspired laughter among his staff writers, no matter how bizarre or infantile, it went in the show. It was this irreverent storytelling style that led to the character George Liquor, whom the network deemed too indecent for broadcast. At the height of an ongoing struggle over story control and direction, Nickelodeon removed Kricfalusi from the Ren and Stimpy series and, furthermore, retained the rights, allowing the network to continue producing the wildly popular series without his input [Solomon 1989]. Due to this schism, Kricfalusi sought solace and autonomy in the uncensored frontier of a burgeoning technology: the internet.



Kricfalusi saw the web as his salvation and “the future of everything” [Tanner 2001]. In an interview with *Wired* in 1997, Kricfalusi said: “What you see every day on the street and laugh at, you aren’t allowed to see in a cartoon. Well, now you can” [Sullivan 1997]. By producing his own cartoon exclusively for distribution on the internet, Kricfalusi was able to circumvent this corporate control. The first installment of “The Goddamn George Liquor Program” is certainly full of imagery, vocabulary, and characters that would be deemed unfit for broadcast on American television including, among other things, the title of the “show” itself and a detailed animation of a dog passing excrement. Indeed, internet content produced a stark contrast to the landscape of contemporary broadcast television; popular programming like “Touched By An Angel” and “7th Heaven” proliferated and were at the top of the Parents Television Council Publications “Most Family-Friendly Shows” [1998].

### The Creation of a New Visual Style

Along with content dissimilarity, the process of creating a cartoon for the web involved the development of a new visual and animation style developed out of real-world constraints. To understand the aesthetics created by these restrictions, we must first briefly explore some technical concepts. In commenting upon the development of online virtual worlds, Manovich [2001] notes: “Because of the limited bandwidth of the 1990s internet, virtual world designers have to deal with constraints similar to and sometimes even more severe than those faced by game designers two decades earlier.” This same bandwidth limitation affected web animation as well. In the words of John Kricfalusi:

When we started using Flash for animation on the Internet back in 1996, we were told the program couldn’t do this and couldn’t do that. Everything I was told couldn’t be done, I figured out a way to do it ... Of course, the trick is to get the medium and the joke to work together. [The Hollywood Reporter 2005]

The “trick” to which Kricfalusi is referring is the mastery of three core principles of Macromedia Flash itself: vector graphics, “tweening,” and the employment of symbols.

As opposed to raster images such as the common web JPEG and GIF image types, which must store colour information for every pixel to create an image, vector images are defined by essential coordinates or, in other words, mathematically [Ulrich 2004]. For example a square is defined by its four vertices, or a circle by its center and radius. Since significantly less data are stored for each object, vector images are significantly smaller in file size and therefore more viable for internet delivery.

“Tweening,” short for “in-betweening,” is the automatic process of generating incremental frames between “keyframes” to give the appearance that the image in the first key frame evolves smoothly to result in the second [Ulrich 2004]. This process removes the need of animating every frame as in traditional cell animation. Instead, “keyframes” mark the start and end of a movement and the computer interpolates the frames or motion in between. The result is an animation technique perfectly suited for a swift production schedule. Additionally, in a web cartoon, these calculations take place on the viewer’s computer, significantly reducing the download time for a Flash cartoon.

A third technique engineered by Macromedia Flash to combat bandwidth limitations is the concept of the “symbol”: an element (a graphic, tween, movie clip, button, etc.) that can be repeatedly used within a Flash animation. Ulrich [2004] describes the symbol as a “master recipe.” Each instance of a symbol refers back to the master, with only changes in size, colour, and orientation recorded, a method that is more efficient than even using duplicate vector shapes. In addition, symbols themselves can contain other symbols, allowing for a modular structure [Ulrich 2004]. Thus, seemingly complex characters or animations can be constructed from simple, reusable elements that, as Manovich explains, can be “assembled into larger-scale objects but continue to maintain their separate identities” [Manovich 2001]. The incorporation of symbols within the Flash environment, and their utilization by modern artists, directly mirrors the limited animation practices developed in the 1950s.

The culmination of these techniques, made necessary by the technological limitations of the internet, namely bandwidth, results in a unique visual style, much different from traditional hand-drawn cell animation. Certainly the character designs are unique (those in “The Goddamn George Liquor Program” are characteristic of Kricfalusi’s other cartoon characters), but the general style common to all early Flash animations includes simple, clean shapes, limited colouring, and a simplified animation that is more akin to moving illustrations than traditional, full animation. The development of this visual style must not be dismissed, however, as a necessity of technology. While it is certainly tempting to interpret new media, including web cartoons, as having two separate layers, what we might call a “cultural layer” and a “computer layer,” we must examine how these forms interact [Manovich 2001]. In the words of Manovich [2001]:

Because new media is created on computers, distributed by computers, and stored and archived on computers, the logic of a computer can be expected to significantly influence the traditional cultural logic of media; that is, we may expect that the computer layer will affect the cultural layer. The ways in which the computer models the world ... influence the cultural layer of new media, its organization, its emerging genres, its contents.

We can see this is certainly true in the example of Flash animations produced for the web: the computer layer has a direct effect on the cultural layer. We can also approach this as a consideration of form versus content. Because new media can be presented in several different forms, it is difficult to see a connection between the form or interface and the content [Manovich 2001]. We assume a separation exists. The problem is that proposing a separation between form and content is suggesting that content exists before form in some sort of “idealized medium-free realm” [Manovich 2001]. However, there is a “motivated connection” between content and form in art, or to use new media terms, content and interface [Manovich 2001]. In short, “the choice of a particular interface is motivated by a work’s content to such a degree that it can no longer be thought of as a separate level. Content and interface merge into one entity and can no longer be taken apart” [Manovich 2001]. This is not a notion developed with the rise of new media. In referring to forms of art, Kandinsky [1984] wrote in 1912: “The form is the outer expression of the inner content ... [n]ecessity creates the form.”

But what are the ramifications of this interplay between content and medium? What message does the form of Flashimation contain? These questions lead to speculation on whether the visual style of Flashimation provides any insight into the type of content presented in the animation. This concept is not limited to Flash animations. McCloud [1994] notes that static cartoons or drawings are nothing more than icons, images used to “represent a person, place, thing, or idea.” He later notes that the style of those images can indicate the type of cartoon strip being viewed. In other words, the form or style becomes an indication of the content. Case in point: the level of abstraction apparent in the rendering of a character can indicate if the story is a serious adventure comic or a humorous comic strip. But McCloud takes his point further, stating that the simplified artistic style in cartoons has the effect of focusing the reader’s attention on specific details and ideas; it amplifies meaning.

As noted above, Flashimations contain not only simplified art and colouring, but also simplified animation. If McCloud’s statement is true, then what is the amplified meaning of Flash cartoons? In other words, what does the visual style of Flashimations signify? We can begin to decode this problem by considering the first episode of “The Goddamn George Liquor Program” discussed above. While this cartoon would have been considered shocking, or at least indecent, if seen on television in the United States in 1997, the fact that it was shown on the web – that it was Flashimation – made the crude and/or obscene elements acceptable. In essence, the crude animation style allows the crude content. Because society has been exposed to Macromedia Flash cartoons for nearly a decade, and their popularity has grown, modern users have acclimated to this animation style. In addition, users have become acclimated to the content as well, or to the idea that a Flashimation might contain crude content. The point of interaction (in this case, a web browser or player accessing a web-based cartoon) “acts as a code that carries cultural messages” [Manovich 2001]. As Manovich explains:

In cultural communication, a code is rarely simply a neutral transport mechanism; usually it affects the messages transmitted with its help. For instance it may make some messages easy to conceive and render others unthinkable. A code may also provide its own model of the world, its own logical system, or ideology. [2001]

The visual aesthetics of a Flashimation might now have the effect of signifying a certain amount of crude or obscene content, and our new cultural ideology keyed by the visual style of Flashimation tells us to accept this crudity with humour rather than shock or disgust. The form itself defines the content and the reaction the user or viewer should experience.

### Flashimation vs. Animation

On the AnimationNation.com message board, a community comprised of industry professionals and self-proclaimed “Voice of the Animation Industry,” one animator proclaims: “It’s hard when toilet humour gets picked up over your intelligent, well-thought content” [AliasMoze 2001]. As stated previously, limited animation was cultured by early television, and industry professionals like Friz Freleng voiced their concerns over the paradigm shift of content and style. This new technology, or “monster” in his opinion, threatened the craft and livelihood of an entire industry. Half a century later, in the midst of yet another technological tsunami, has the resentment in the industry changed or merely its target? Another AnimationNation.com

member says:

Frankly, Flash animation, with its replacement of body parts approach, reminds me of back when I was in public school, where some of the less artistically inclined kids would avoid having to actually draw or paint by instead cobbling together cut’n’paste photo collages for their art assignments. Looks to me like the cut’n’paste kiddies have grown up and taken over the industry now [PonsonByBritt 2001].

Technology is not the only problem confronting industry professionals today. Adding to the anguish felt by many modern animators is the proliferation of inferior artists, which has generated an oversupply of substandard work. Art, design, and animation software abounds, and its broad availability provides multitudes with options other than the formal academic arenas or apprenticeships where artists once trained and honed their craft. C. C. Edwards, a freelance animator working in New York, states:

One consistent thing that technology has done for all the commercial arts is enabling less and less talented people to participate in the artform. Why learn how to draw and animate the way the old masters did when you can click a mouse and move things around? [2006, pers. comm., 16 January]

But is the integration of the masses into a once small, tightly knit industry a valid concern for today’s animation community? According to Jeremy Semour, an animation director at Primal Screen Studios in Atlanta, Georgia, it is not.

I feel that this helps the animation community. If someone wanted to do a short animation, traditionally it would take a team of people and months of time. Projects like that can now be accomplished by a fraction of staff, and much less time. This also floods the market with a large amount of animation, which pushes us to do better work. [2006, pers. comm., 18 January]

### Conclusion

As the last quote indicates, perhaps the proliferation of Flashimation, which is now appearing on television as well as the internet, is not as negative as some within the animation community fear. Exploration of the roots of Flashimation, starting in the late 1950s and early 1960s with shows such as “The Flintstones,” demonstrates that the introduction of cheaply produced, limited-animation cartoons is not a recent event. Despite the frustrations and fears expressed by animators in that era, more traditional animation, as in feature films, thrived. In addition, an examination of the interplay between the form and content of Flashimation suggests that the visual style may be becoming more prevalent simply because of its relation to the content of these cartoons rather than the result of falling standards across the entire animation field. In short, crude or sophomoric animation indicates the crude or sophomoric humour which seems to be in demand. Similar parallels between form and content are apparent in Japanese-produced anime cartoons, in which visual style is often a clear indicator of the type of cartoon (drama, comedy, action, etc.) being viewed. This semiotic value of Flashimation, especially in conjunction with its appearance on television, which does not have the technical constraints of the late-1990s internet that influenced the visual style of Flash cartoons, is worthy of further investigation.

## References

- AliasMoze. 2001. Interesting ..., Available at: [www.animationnation.com/cgi-bin/ultimatebb.cgi?ubb=get\\_topic;f=1;t=000575](http://www.animationnation.com/cgi-bin/ultimatebb.cgi?ubb=get_topic;f=1;t=000575)
- Corsaro, S. 2002. *The Flash Animator*, New Riders Publishing, Indianapolis.
- Goodman, M. 2004. When Cartoons Were Cartoony: John Kricfalusi Presents. *Animation World Magazine*. Available at: [mag.awn.com/index.php?article\\_no=2214](http://mag.awn.com/index.php?article_no=2214)
- Kandinsky, W. 1984. On the Problem of Form, in *Theories of modern art: a source book by artists and critics*, ed. H.B. Chipp, University of California Press, Berkeley, California.
- Manovich, L. 2001. *The Language of New Media*, The MIT Press, Cambridge, Massachusetts.
- McCloud, S. 1994. *Understanding Comics: The Invisible Art*, HarperCollins, New York.
- NNDB 2005, John Kricfalusi. Available at: [www.nndb.com/people/574/000044442/](http://www.nndb.com/people/574/000044442/)
- Parents Television Council. 1998. Top 10 Best & Worst Family Shows on Network Television: 1996-97 TV Season, Parents Television Council Publications. Available at: [www.parentstv.org/PTC/publications/reports/top10bestandworst/97top/main.asp](http://www.parentstv.org/PTC/publications/reports/top10bestandworst/97top/main.asp)
- PonsonByBritt 2001. This is the TV Animation Golden Age. Available at: [www.animationnation.com/cgi-bin/ultimatebb.cgi?ubb=get\\_topic;f=1;t=008592](http://www.animationnation.com/cgi-bin/ultimatebb.cgi?ubb=get_topic;f=1;t=008592)
- Sklar, R. 1994. *Movie-Made America: a Cultural History of American Movies*, Vintage Books, New York.
- Solomon, C. 1989. *The History of Animation: Enchanted Drawings*, Random House Publishing, Inc., Avenel, New Jersey.
- Sullivan, J. 1997. In His Way, John K. Will Challenge the World' *Wired News*. Available at: [www.wired.com/news/culture/0,1284,7566,00.html](http://www.wired.com/news/culture/0,1284,7566,00.html)
- Tanner, S. 2001. Toon In, Turn On, Streaming Media. Available at: [www.streamingmedia.com/article.asp?id=6720](http://www.streamingmedia.com/article.asp?id=6720)
- The Hollywood Reporter. 2005. John Kricfalusi, The Hollywood Reporter. Available at: [www.hollywoodreporter.com/thr/film/feature\\_display.jsp?vnu\\_content\\_id=1001096312](http://www.hollywoodreporter.com/thr/film/feature_display.jsp?vnu_content_id=1001096312)
- Ulrich, K. 2004. *Macromedia Flash for Windows and Macintosh*, Peach Pit Press, Berkeley, California.

**Paul Hertz**  
 Theoretical Papers Chair  
 The Collaboratory Project  
 Northwestern University  
 Evanston, Illinois USA  
 paul-hertz@northwestern.edu

# Drunk on Technology, Waiting for the Hangover: A Test Plot

*The texts are structured by a Graeco-Latin Square of order 4, a combinatorial structure frequently used in agricultural test plots, typically for combining plant strains with different fertilizers in such a way that no plants or fertilizers are repeated in any row or column of the square. The order of texts was determined by random operations that preserve the properties of the square and keep the text numbered 16 in the last slot. The texts are read left to right across the square.*

**Plants:** *Network, Collaboration, Art, Emergence*

**Fertilizers:** *Activism, Bandwidth, Naming, Wildcard*

*In addition to sources cited in the text, I have paraphrased or loosely quoted Ted Nelson, Umberto Campagnolo, and Geert Lovink. John Cage's lectures, which flow from his compositional techniques and philosophy, are a clear inspiration.*

**1. Art/Activism:** Technological progress can rather easily channel utopian desire, for both derive the meaning of individual actions from a teleological myth. If the *realpolitik* hidden behind technotopia appears ethically abhorrent, what strategies can artists working with technology adopt to combat it? I will boldly assert that investigation, analysis, criticism, and humor still work. These are the tools of culture in which we may retain at least a secular faith, even in this age of exhausted narratives.

**2. Emergence/Bandwidth:** Mark C. Taylor, in his recent book *The Moment of Complexity: Emerging Network Culture*, suggests that networks offer a organizational scheme radically unlike the rationalized grids and hierarchies that he sees prevailing from the Enlightenment through Modernism. The network is both substantive and emerging, a structure and a paradigm. Networking displaces the grid. Topology is destiny.

**3. Collaboration/Wildcard:** A number of licensing schemes exist to support collaborative development of software. These are variously known as free software, open source, or public license. Profit enters the picture through consulting, service, and support, not through sales. Anyone with the right skills can modify and improve free software—but they can't sell it. On the other hand, they can contribute their improvements to the further development of the software. Collaboration is built into the economic model.

**4. Network/Naming:** I say "broadband" and you're likely to think of movies on demand. It's a commercial buzzword, but so now is "Internet." According to Joel Mambretti, Director of the International Center for Advanced Internet Research, researchers are alarmed by how quickly mass entertainment media appropriate enabling technologies. With "Internet2" reduced to hype, research adminis-

trators have to scrap "Internet3." They cast about for new names to mark the territory or stick with angular acronyms without a whiff of glamour.

**5. Network/Wildcard:** With spam and porn as its most egregious growth industries, the utopian bloom has faded from the Internet. Though it was long suspected that culturally-determined signs of identity and their attendant privileges, ironies, and afflictions were bound to persist in the virtual world, for one giddy moment the vision of a world bound together by an emerging networked consciousness hovered over the future. Whether technology could further humanity's collective voyage from effective mass illiteracy to critical thought and self-determination [Umberto Campagnolo] seemed too serious a question then, but it is perhaps the only question still worth asking, now that the party is over.

**6. Collaboration/Naming:** Only a fraction of the world's people have a presence in cyberspace: the rest are outsiders. On the border, between inside and outside, objects and persons acquire names, differences are constructed. When insiders and outsiders meet to collaborate, let them first exchange names. "Hello, we call this progress—what is your name for it?"

**7. Emergence/Activism:** As networks become more densely intertwined [Ted Nelson], perhaps what emerges is not a new consciousness bootstrapping itself into existence, but new forms of social organization—new ways of making decisions about our lives. If we sweep away the hype and mysticism about world-wide networks, we may even have cause for optimism.

**8. Art/Bandwidth:** So where should the *ambitious* artist set out to work with technology? Look to the frontier—where the bandwidth breeds and the funding flows. Where the lonesome engineers have toys they haven't learned to play with. Where the audience is tiny, but you'll eat.

**9. Emergence/Naming:** What emerges? A new consciousness? A new world order? Who will have the power to name emergent phenomena in world ecology, in human society? Is it our responsibility? If we don't name it, does it exist at all?

**10. Art/Wildcard:** Let a thousand hybrids bloom. Against the nemesis of *das mediale Gesamtkunstwerk* [Geert Lovink], total/izing media art, let a thousand recombinants contend. Let resistant versions of the truth work in the interstices, wedge themselves into the cracks in the media wall. Hybridity is not a choice, but the condition of survival.

**11. Network/Bandwidth:** In the beginning, the Internet was not de-



signed for person-to-person communication. It also wasn't designed to withstand an atomic blast. Both came later. First computers talked to computers. Today, some of the new broadband technologies are also dedicated to machine-to-machine communications. In fact, most network traffic is still machine-to-machine data exchange. Who needs bandwidth? The technology itself needs bandwidth. Let's grow some.

**12. Collaboration/Activism:** In contrast to forms of activist art where getting arrested validates the work (no publicity is bad publicity), consider the strategy of cultural animation. In this model, which borrows from the work of Paolo Freire, artists work within a community, getting to know people directly, understanding their circumstances first hand. The artist may have to sacrifice autonomy and protagonism, but the work will be rooted in and emerge from the community. And yes—you may still get arrested.

**13. Collaboration/Bandwidth:** Broadband communications technology makes the Internet as media feeding tube technically feasible—indeed, likely—but collaborative models of communications have not been entirely displaced by models of passive consumption. Collaborative models have already met with considerable success at the low end—perhaps because megamedia isn't much interested in low bandwidth. If the economic barriers are low enough, medium bandwidth networks will also become a tool for building communities. At the high end, the issue may be how to keep collaborative models viable during the transition out of the lab, since they are at the frontier not just of technology, but of commodification.

**14. Network/Activism:** Coordinated worldwide protest against the latest war would not have been possible without the Internet. Primitive email and listserv technology gets things rolling. As events develop, tactical media steps in. Participants, not professionals, report on what's happening, with whatever bandwidth is available. Tactical media make no pretense of non-partisan observation—but at least they offer alternatives to the predigested cud of televised news.

**15. Art/Naming:** I lived in Spain during the transition from dictatorship to democracy, and had the privilege of participating as an observer, writing about events to friends in other countries. The criticism I most frequently heard leveled against artists who wanted to be political activists—though by no means confined to them—was *afan de protagonismo*, the desire to be a protagonist. Self-designated, of course. Naming is not enough, whether one is calling up the devil or seeking political change.

**16. Emergence/Wildcard:** From the *Statistics of Deadly Quarrels*, by Lewis Richardson, the following table of data.

1820 to 1945	
Number of Dead	Number of Wars
1000	188
10,000	63
100,000	24
1,000,000	5
10,000,000	2

Lewis Richardson, *Statistics of Deadly Quarrels*.  
Cited in Axelrod & Cohen, *Harnessing Complexity*, Basic Books, 2000

From the show *Turbulent Landscapes*, from 1995 at the San Francisco Exploratorium, Juanita Miller's sculpture, *Point of Criticality* (<http://www.exploratorium.edu/turbulent/exhibit/criticality.html>). In *Point of Criticality*, seeds rain down onto a heap of corn until it becomes unstable and spills grain into the conveyor system that feeds it. Like the frequency and the number of deaths in wars, constantly fed with new population, the frequency and size of avalanches in Miller's heap of corn obey a Power Law Distribution. Wars also obey the law of distribution of power. With careful study, avalanches can be avoided and their severity reduced.



Tomoe Moriyama

Curator, Tokyo Metropolitan Museum of Photography

Project Associate Professor, The University of Tokyo

Tokyo, Japan

DZD00256@nifty.com

# Meta-visual/media/space – algorithmic “intersection,” the new aspect of media art exhibition

## 1. Introduction

When we start to think about “vision,” imaging, and our ways of perceiving the outside world, we must be clear about what we mean. Even in Japan, where imaging technologies play a central role, there are misunderstandings about what “imaging” is and what comes under its umbrella. By “imaging,” I mean the creation of images through any medium that is not simply manual: those that can be traced, reflected, photographed, reproduced, and projected. The term is not restricted to animation, video, film, or other means of creating pictures in motion. “Imaging” encompasses shadow play, magic lantern, anamorphose, and all the processes of visualization. Since the Tokyo Metropolitan Museum of Photography (TMMP) opened as a center for photography and other visual media, it has been important to discuss what “imaging” means.

Our view of the visual arts, including film and media, is too confined to the present. All forms of art have their historical roots, and neither film nor video has suddenly emerged from nowhere. To appreciate new works in electronic media, it is important to be aware of connections between the technological means employed now and the often-forgotten visual devices and techniques of the past. Even in Japan, where technology is advanced, many people do not correctly understand media art as a part of the history of imaging, which is leading to the present.

The Cybernetic Serendipity exhibition, presented in a space of 6,500 square feet at the Institute of Contemporary Arts in London, was a major early example of an exhibition about the role of computers in the arts. Among the 325 individuals whose work was shown were artists, composers, engineers, architects, poets, and scientists who used computers as tools in their creative work. Sixty thousand people came to the ICA exhibition. Among the artists featured in the exhibition were Nam Jun Paik, Wen Ying Tsai, John Cage, and Ianis Xenakis. Japan was represented by CTG (Computer Technique Group), a group of young students from The University of Tokyo and Tama Art University who presented some of the most compelling computer graphics, including portraits, in the whole exhibition.

As Jasia Reichardt, curator of this show, said our generation – people who were younger than five in 1970 – was not surprised about the application of technology to art or vice versa. We are not surprised by the “newness” of technology itself but rather by the new concept which emerges from it. Our generation’s successors are members of the digital generation. By the time they were born, the world was already networked. Mine is a fortunate generation that has been able to study with teachers, curators, researchers and artists who were at the forefront of the new image-making technologies. In the 1980s, there was a growing interest in realizing the idea of the Musée Imaginaire, which Katsuhiro Yamaguchi, one of the pioneers of media art, called Imaginarium. It was this impetus which led to the founding of Japan’s first museum of photography and imaging.

[Fig 1.]



Figure 1: TMMP and its permanent collection

The Images and Technology Gallery, the B1 floor of the Tokyo Metropolitan Museum of Photography, is the result of that initiative. Here, the broad field of image-making is divided into five themes based on its permanent collection from pre-cinema history to contemporary interactive installations like C. Sommerer & L. Mignonneau’s work – themes on Imagination, Animation, 3rd Dimension, Magnified View and Documentation as “time and place remembered.” The following chapters describe the current situation of media art museums in Japan and how I realized those five themes via many media-art exhibitions in the past 10 years.

## 2. The current situation of digital art, media art and museums in Japan

In 2004, I did a study on Japanese policies and situations of institutions that are related to media arts. Our group, the Media Arts Research Committee (04-05), did a survey for 185 major museums in Japan and analyzed various exhibitions and international institutions such as ZKM, Ars Electronica Center, etc. We hope that museums or public facilities can be a center for the creative domain of media arts in the postmodern era. As many artists and researchers think that collaboration between scientists, engineers, and artists will be effective, we should seek alternative ways to introduce media arts because these arts involve their environments and interact with audiences in non-traditional ways.

The Agency of Cultural Affairs of the Japan Ministry of Education and Science promotes media arts through an annual Japan Media Arts Festival at TMMP. The Fundamental Law for the Promotion of Culture and Arts enacted in 2001 defines “media arts” as “movies, car-

toons, animations and arts that utilize computers and other electric devices.” From an economic point of view, the government enacted the Law for Creation, Protection and Promotion of Applying Contents in 2004, acknowledging the value of intellectual property of popular cultural institutions such as movies, games, music, photography, animation, and comics, all major Japanese industries in the international market. Beginning in 2002, all Japanese junior-high and high schools launched the new curriculum in which digital media/images are taught in the art curriculum.

According to our survey, 63 percent of art museums have already exhibited something in relation to media arts, and 17 percent are interested though they have not yet developed any such exhibitions. About 45 percent of major Japanese museums have less than five staff members in charge of exhibitions and public/educational programs, and most merely have specialists in exhibition engineering. Many people have pointed out that the shortage of curatorial staff and budgets is a problem. Some curators/educators regard media arts as hard to handle and costly. [Fig 2./Fig 3.]

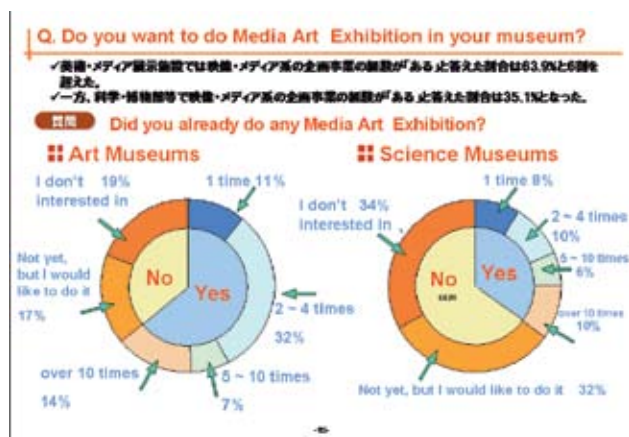


Figure 2: Graph 1



Figure 3: Graph 2

Through this research, we realized that we should develop touring exhibitions or packaged programs that share how to exhibit or organize them on common hardware platforms. Then, exhibiting media arts would be more economical and easy to handle by a smaller staff.

### 3. Various examples and analysis from media art exhibitions in TMMP

Tokyo Metropolitan Museum of Photography has gained more visitors since it began having many media arts exhibitions. Now, I would like to look closely at some “intersection” examples and suggest new systems to carry out media art exhibition more easily. [Fig 4.]



Figure 4: Documents/brochure of each exhibition; Mission Frontier, Global Media, Meta-Visual

There are various “intersections” between the five themes in our exhibitions. The history of visual image and visual art were equally exhibited in Re-Imagination –image/media/museum in 2002-2003, which traveled to the six public museums in Japan. Here, unlike many presentations, contemporary installations like Kazuhiko Hachiya’s multi-viewpoint experimental system Centrifuge, and historical visual devices like magic lanterns or peepshows were displayed in the same space in this exhibition.

In the exhibition A Universe on Storyboards: Birth of an Image in 2003, the intersection between workshop and exhibition was also introduced. We displayed storyboards, puppet models, and character sketches as the backgrounds of music videos, animations, computer games, and commercial movies by nine artists, including Koji Yamamura’s Mount Head.

The Digital Forest exhibition featuring Tamas Waliczky and other digital-image artists considered the meaning of healing and curing in our digital age. There again, the contrast between the natural and the digital was made prominent.

In the annual Global Media exhibitions, we have introduced the activities of Japanese artists whose works have been displayed in international festivals such as SIGGRAPH and Ars Electronica. 2005 was a fruitful year in regards to this triumphal return. While introduc-



ing three young Japanese student groups awarded in the “next idea” section of Ars Electronica, the exhibition included Death Clock by Tatsuo Miyajima & Hajime Tachibana. The installation enables one to enter the cyber network world by using beautifully designed RFID tag cards. This work obscures the border of the cyber and the real. This was also one of our attempts to bring ubiquitous methods into the exhibition space.

The exhibition Mission: Frontier –deep space of our perception focused on the frontier that unites art and science. We explored the new frontier that was born in the “intersection” of two different fields of art and science. Lots of works related to the new, beautiful technology in space, like Takuro Osaka’s visualization of cosmic rays from outer space, or the deep sea and the inner space of our bodies.

OTAKU: persona=space=city was also a triumphal return. We exhibited a lot of the art work from the the Japan Pavilion at the 2004 Venice Architecture Biennale. As public interest in the little-known world of OTAKU, or Japanese Nard culture, grew during this exhibition, we had over 9,000 visitors per day at The Media Arts Festival Japan. The resulting huge numbers of visitors queued up in front of the entrance, waiting up to two hours. It was the moment of “intersection” of visual arts and OTAKU culture, in which a remixed, hybrid cultural field was recognized.

I tried to present spaces beyond the visual space in different kinds of ways in Meta Visual – the history and futurescapes of our perception. Strange feelings and splendid expressions of depth and illusion such as those in Kohei Nawa’s spatial installations were introduced. When this exhibition toured to France, I had to make it very compact and handy, and I carried many works by Maywadenki and Yoichiro Kawaguchi, as well as flip books in iPod photo and Toshio Iwai’s Electropunkton, a NintendoDS game. This exhibition enabled us to enjoy both large installations and small designed products, at the same time as a spatial “intersection.”

As I have been in charge of five or six of such exhibitions a year, and had many of them tour extensively, it is now essential for me to systematize the intersection I have described above. If more and more people are eager to go to media-art exhibitions, we have to make their realization easier. Therefore, I would like to propose the application of a genetic algorithm method as the technique of composing a media-art exhibition, as the “intersection” between art and engineering. This is a system that generates space arrangements automatically. It will adjust the characteristics of the works in an exhibition and draw the best positions for all the works to display their qualities to the best advantage. In an exhibition with many restrictions, each of the works also has its restrictive characteristics in the way it should be displayed, such as lighting, sound, motion, and operation. By evaluating all of those conditions, it will generate the arrangement automatically.

Usually, evaluation of the exhibition activities organized by local governments such as the city of Tokyo, is not based on any criticism etc., but judged only by the number of visitors. Even if everyone understands that is a problem, the method on which we can rely is yet to be generalized. However, we can see how media arts can reduce costs and increase the number of visitors, from 170,000 to 430,000 people in a year, as in The Media Arts Festival Japan in 2001. [Fig 5.]

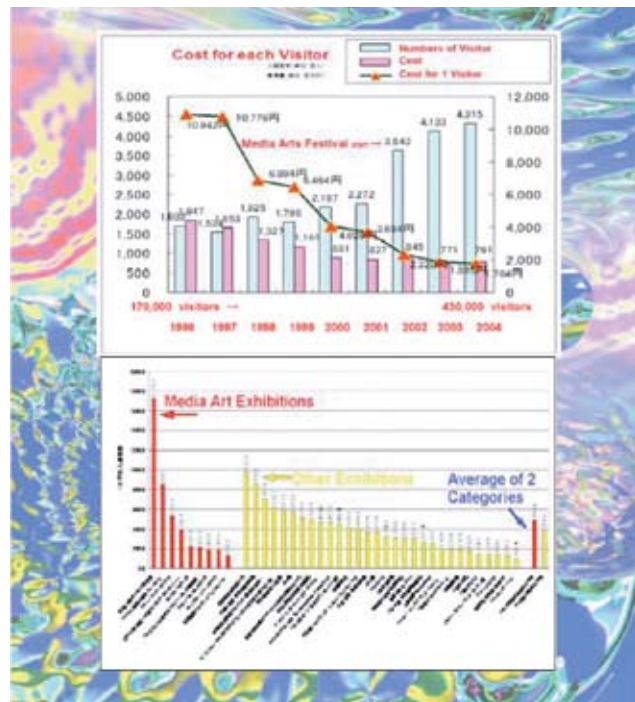


Figure 5: Graph; the comparisons after we promote media arts exhibitions

From now on, evaluation of easy usage and universal quality will be performed by some kind of network technology, such as FID tag cards. By demonstrating the high quality in the media art field, its outstanding cost performance, and the wonderful works, the characteristic elements of the field should be understood still more widely. A large budget is applied for research in science and engineering and their cutting-edge technologies, and this fact needs to be introduced to us in a more intelligible way. Making these technologies familiar via digital art/media art exhibitions is the mission of our age, where we can discover a new aspect of art in the new century.

#### 4. An attempt at the next stage

Between the 1960s and the 1980s, those receptive to the growing field of technological art have always regarded discussion of technical details of the works with a modicum of skepticism. It is indeed unwarranted to look at these works in terms of their technology alone, but technology itself is responsible for generating new ideas. Pursuit of the fantastic and the curious has been responsible for development of techniques, devices, and ideas that have made many modes of expression possible. Though I quoted those various intersections mainly from media art exhibitions in Japan, as mentioned above, the investigation based on my exhibition activities showed that there is a strong social need in the media art field. Although large numbers of cultural facilities are willing to present media-art activities, usually the shortage of know-how and equipment is a problem. Many media-art works can't be exhibited or collected in the same manner as traditional paintings or sculptures. Some of them need the interaction of audiences and environments as site-specific projects; some involve cutting-edge technologies that may be obsolete in the near future, while others are multiple arts such as movie clip or software so that artists can easily publish them on the internet. Thus, the meaning of art exhibition and collection will change as technology develops.

The institutions or museums that have performed pioneering activi-



ties must share the knowledge that they have. Also, we must be conscious that the prosperity of the present digital content has its foundation in the avant-garde art activities and expressions in the early 60s. This is relevant not only in the case of commercials or entertainment today but also in public spaces like museums. Research on this field must also continue.

What is the next stage of media art? There are three different elements to this:

1. Making products as multiple artworks.
2. Creating educational materials,
3. Public art.

Thus, I want to propose new cultural facilities, something like what Malraux conceived in the past. For this purpose, the exhibition-support systems I suggested and prepared are required so that exhibitions of media arts may be held in every institution. One approach to this problem is to make the exhibition plan using a genetic algorithm that materializes adjacent works effectively. [Fig 6.]



We set each artwork's elements (lighting, movements, interaction, etc.) as CONDITIONS, and also specify special conditions of the exhibition room such as CONSTRUCTION. And after the tentative DECISION, the trial is repeated as RE-CONSIDERING, REPLACEMENT, and SHUFFLE, as in GA theory. The troublesome management of power supplies or components that are different for each work becomes possible because the system connects the whole exhibition in a network and enables exhibition package management. Also, a system that feeds back the opinion of visitors is required so that an exhibition may not be appreciated only by the appropriate number of visitors.

Another approach is using RFID tag cards and wireless pens for an automatic questionnaire system. I introduced a trial using RFID tag cards in our OTAKU exhibition as an interface for Death Clock. We also exhibited another example, which used Japan Railway "Suica" cards to show where visitors came from. This project, entitled Share-log, was created by the research group CREST (Kotaro Hashimoto, Yasuhiro Suzuki, Tomohiro Tanikawa, Toshio Iwai, and Michitaka Hirose). In the exhibition Leading Edge Technology Showcase, they visualized each visitor's location, projected on a huge map of Tokyo. A tag card system like this can be applied to understand how visitors experience the exhibition and each installation. It helps us understand how to create effective exhibition design for media-art works.

It was also used to carry out an opinion survey via digital technol-

ogy rather than the classic questionnaire on paper, to evaluate the exhibition's quality and provide feedback for subsequent projects. In the Meta-Visual exhibition at TMMP, (April - July 2005), which also traveled to France, the new questionnaire system was used to count the total number of opinions automatically. With this system, visitors can enter their answers in check boxes on a normal paper questionnaire. Then they can see their own handwriting characters in a computer display. At the same time, they can see their answers in a graphical display, where the data are totaled automatically. This system greatly contributed in the last Japan Media Arts Festival, which attracted over 67,000 people in 10 days. This kind of exhibition support system would be greatly appreciated in the next stage, as a new intersection.

## 5. Conclusion

Various experiments will be continued at media-art exhibitions. When these exhibits increase in number, more interesting works and new talents will emerge, and we can continue to develop our perceptions, as we have for thousands of years. Today's world is one of shared cultural aspirations and shared images. Imaging is at its center. Just like Andre Malraux's Musée Imaginaire and Katsuhiko Yamaguchi's Imaginarium, Jeffrey Shaw pursued the notion of a virtual museum, and other various exhibition alternatives are now realized on the Internet. An ideal visual space for recording the memories of a city is a museum dedicated to the art of imaging and perception. We await its realization. Meanwhile, as I suggested earlier, we should come to terms with the simple truth that, just as we must look to our past, so our future too will have its roots in the present.

## References

1. Media Arts Research Committee & Computer Graphic Arts Society 2005, *The proposals for administrative policies to enhance cultural values of research on the cutting edge science technologies as forms of media arts*, Computer Graphic Arts Society, Tokyo.
2. Moriyama, T. 2002. *Re-Imagination: Image/Media/Museum*, Kousakusya publishing, Tokyo.
3. Moriyama, T. 2004. *A Universe on Storyboards: Birth of an Image*, Bijutsu Shuppan-sha, Tokyo.
4. Moriyama, T. 2005. *Meta Visual: 10e Anniversaire du Tokyo Metropolitan Museum of Photography*, FILIGRANES Editions, Paris.

**Lizzie Muller and Ernest Edmonds**  
 Australasian CRC for Interaction Design  
 Creativity and Cognition Studios, University of Technology  
 Sydney, Australia  
 emuller@it.uts.edu.au  
 ernest@ernestedmonds.com

# Living Laboratories: Making and Curating Interactive Art

## Abstract

This paper describes the development of laboratory concepts in the making and curating of interactive art, in which the exhibition becomes a site for collaboration between curators, artists, and audiences. It describes Beta\_space, an experimental public venue that seeks to realise the concept of the exhibition as living laboratory through the participatory qualities of interactive computer-based art. The paper places this initiative within an emerging phenomenon of hybrid production and exhibition spaces. It argues that the evolution of such concepts has been hampered by the continued distinctions, within traditional cultural institutions, among art, science and technology, object and experience, creation and consumption.

## Keywords

Interactive art, curatorial practice, audience research, practice-based research, Beta\_space.

## Introduction

Alfred H Barr, founding director of the Museum of Modern Art, New York, famously declared that his revolutionary museum would be “a laboratory; in its experiments, the public is invited to participate.” Since the 1930s, this concept of the exhibition as a site for collaboration among curators, artists, and audiences has struggled to come into existence despite an overwhelming move in contemporary art and culture towards experience and inter-relations rather than curatorial authority and material objects. [4, 16] The audience’s experience has remained largely the concern of the marketing rather than the curatorial departments of galleries and museums.

In November 2004, the Creativity and Cognition Studios (CCS) and the Powerhouse Museum, Sydney, launched an initiative that seeks to realise the concept of the exhibition as living laboratory in a very particular way, through the participatory qualities of interactive computer-based art. Beta\_space is an experimental exhibition area within the Powerhouse that extends the interactive-art research studios of CCS into the public context. Beta\_space shows interactive artworks at different stages, from early prototype to end product. It is the principal site of CCS research into how audiences experience interactive art.

Beta\_space grew out of a long series of studies of digital art making, [6] in which evaluation of interaction played an increasingly important part. It also drew on a set of collaborations between artists and scientists in which engagement with the audience, including exposition of works in progress, was a key aspect of the process. [12] These projects showed that the situated evaluation of emerging works was vital for many practitioners. [5] Thus, Beta\_space is a practical solution to two areas of need: the needs of artists to engage audiences, in context, in their practice, and the needs of the museum to provide current and dynamic content to their audiences in the rapidly changing field of information technology.

This paper explores the idea of the exhibition as a public laboratory for interactive art practice and places Beta\_space within this context. The paper falls into three sections. It begins by describing the underlying rationale for why interactive art practice must engage audiences, and why this must be done in real-world settings. Section two situates the research aims of Beta\_space within the landscape of enquiry into interactivity and audiences. The final section explores the concept of the art exhibition as living laboratory within the broader context of the evolution of cultural institutions and curatorial practices.



Figure 1: Beta\_space in the Powerhouse Museum, Sydney

## Interactive Art and Audiences

The experience of art is always active, and in a fundamental sense interactive, consisting of the interplay of environment, perception, and the generation of meaning in the mind of the audience. However, with the advent of computer-based interactivity, a new kind of art experience has come into being. In computer-based interactive artwork, the activity is not only psychological, but also constituted through exchanges that occur materially between a person and an artefact. Audience and machine are working in dialogue to produce a unique artwork for each audience encounter.

As such, interactive artworks are at once both object- and experience-based. In the early 1970s, Ernest Edmonds and Stroud Cornock articulated a new concept of the relationship among artist, artefact, and audience in response to the advent of computer-based interactivity in art. They described a dynamic art situation, which they refer to as “the matrix.” [2] All the elements of the matrix (the artist, the audience, and the artefact), which Cornock and Edmonds refer to as the “art system”, are actively involved in the occurrence of the artwork. Meaning occurs through the process of exchange, and interactivity itself is the very medium of the work.

For researchers seeking to better understand interactive art, it is necessary to study the complete “matrix” and the exchanges that occur within it. Studying the art system in isolation from its audience can only lead to a partial understanding at best and misleading results at worst.

To begin to understand interactive art, we must begin to question how interactivity as a medium produces meaning. Some of the most important work in this area has been done in the field of human-computer interaction. For example, Lucy Suchman, in her influential book *Plans and Situated Actions*, [18] locates the source of meaning in situated action itself. In so doing, she emphasizes a notion of interactivity in which action is central and goals are emergent. Human actors “achieve” meaning in their encounters with interactive artefacts through action. This achievement is rooted in the contingent resources of the context, which are brought into being by the situated action that requires them. As a result, “the significance of artifacts and actions ... has an essential relationship to their particular, concrete circumstances.” Studying the audience experience of interactive art in context is, therefore, of primary importance to understanding interactivity as a medium.

## **The Landscape of Audience Research**

### ***The audience and the museum***

Beta\_space aims to provide practice-based researchers in interactive art a space in which to engage with audiences. In doing so, it builds on, and extends, a general evolution in the concept of the museum from a repository of both objects and authority to a site of questioning and experience. Karsten Schubert gives an account of this shift in the museum concept from the French Revolution to the present day, claiming that “the history of the museum ...could be viewed as a gradual shift of the visitor from the periphery to the centre of museal practice.” [15]

However, he goes on to suggest that the growing inclusion of the audience owes most not to democratised ideas of pedagogy and aesthetics but rather to the museum’s inescapable submission to the imperatives of the market. The catastrophic decline of public funding in the 1980s for cultural institutions forced an increased consideration of visitor attendance and satisfaction to justify public investment and court sponsorship, and bring in much-needed revenue. Schubert’s analysis would explain why most understanding of and communication with audiences is still the province of the marketing and education departments, rather than the curatorial departments of museums. While a general trend toward an open, dialogic, and collaborative curatorial practice is emerging, Barr’s vision of the “laboratory” in which the audience participates will remain unrealised as long as audiences remain “clients” rather than partners, and as long as curatorial research focuses primarily on objects and artists rather than audience experience.

### ***Empirical audience research and interactivity***

Existing approaches to studying the relationship of audiences to interactivity can be grouped in two categories. The first comes from a traditional museological approach and focuses on education and interpretation. The second comes from the field of human-computer interaction and offers a new perspective on understanding of interactivity.

## ***Education and interpretation***

The majority of existing work on the impact of information technology in museums and galleries focuses on their educational and interpretive use rather than their existence as artworks or cultural objects in their own right.

Beryl Graham points out that there is very little evaluation of interactive artwork, but that there are a number of adjacent fields, such as evaluation of interactive educational technologies in classrooms, evaluation of museum exhibits in general, and some work on evaluation of interactive museum exhibits, that provide data and methodologies to build on. [8]

Such studies are mainly based on observation, questionnaires, and interviews, and they involve questions such as length of use, satisfaction of use, efficacy of interface, patterns of movement, and behaviour and social interaction.

### ***Human-computer interaction (HCI)***

There is a growing body of work that draws together HCI and art. Edmonds et al [8] have conducted extensive studies of digital art practice, developing new HCI methods for the purpose. Hook et al [10] have used the co-discovery method as a means to gather verbal data describing the audience experience by recording conversations between research participants in laboratory situations.

Research by vom Lehn et al [20] uses an ethnomethodological approach to understanding how audiences encounter interactive exhibits in real-world settings. Through video-based observations of visitors to galleries and museums, vom Lehn et al show how the audience experience of interactive artwork is socially determined. From a human-centred design approach, Robertson et al [14] have used extensive field observations of audience behaviour in museums and galleries to develop design tools for creation of interactive exhibits.

### ***Practice-based research in Beta\_space***

The Beta\_space initiative draws together these areas of research, bridging the gaps between formative evaluation, observational research in real world settings, and more in-depth verbal data-gathering in laboratory conditions.

Beta\_space is a “living laboratory” in two respects. Firstly, it provides a long-term context for collecting data on the audience experience. Secondly, it provides a dedicated base for iterative creative development. Beta\_space offers practice-based researchers an opportunity to collaborate with audiences in development of new artworks, allowing artists and curators to work with interactivity as a medium, refining and developing it through the lived experience of the audience.

In-depth discussions of the research process, case studies and results from the Beta\_space initiative have been published elsewhere [2, 3]. This paper goes on to explore the idea of the initiative as an experimental exhibition area, and the implications of this.

## **BETA\_SPACE IN CONTEXT**

### ***The challenge of interactive media to curatorial practice***

The challenge for artists and curators producing and exhibiting interactive artworks is to find a way to allow the physical centre of

the museum to evolve alongside the demands and opportunities opened up by this new form. Most discussion about the impact of computer-based new media on both museums and galleries has focused on education, marketing, and archiving, while the potential impact on curatorial practice has not become part of mainstream research and discussion. Lev Manovich has attributed the contemporary art establishment's lack of engagement with new technology to the division between "Turing land" (inhabited by the computer arts) and "Duchamp land" (inhabited by post-modern conceptual art) [13]. Both Edward Shanken [17] and Gloria Sutton [19] have produced subtle and informed historical critiques of this separation, however the fact remains that the traditional museological world has not yet seized the challenge thrown down by the increasing integration of interactive technologies in contemporary art practice.

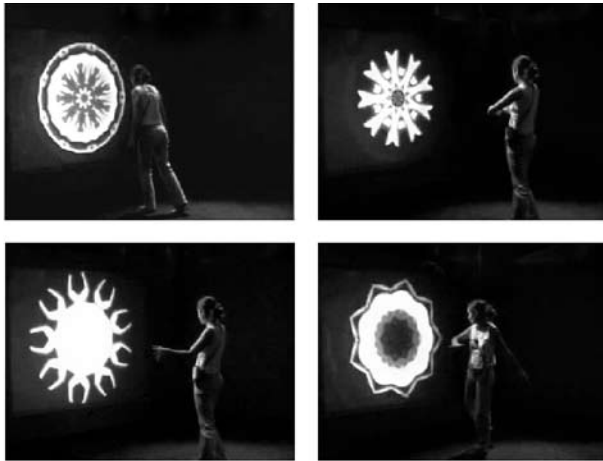


Figure 2: *lamoscope (Fels and Mase) in Beta\_space* [3]

On the other hand, a growing body of specialist practitioners is vibrantly engaged in debating the transformations of curatorial practice and establishing a body of "best-practice" knowledge. A great deal of this work is taking place within the email lists and online communities that make up a large proportion of the professional exchange within the world of new-technology art. These responsive communities are attempting to combat a current lack of published references, as Beryl Graham, founder of the CRUMB discussion list and resource, has written: "The problem with curating new media art is that the fascinating range of challenges is matched only by the dearth of data and material available to help curators." [9]. Recently, significant conferences such as "Curating, Immateriality, Systems" (Tate Modern, London, 2005) and "Refresh" (The Banff Centre, 2005) have drawn together practitioners in the area and raised the growing importance of these issues.

### A return to "Wonder chambers"

One of the major restrictions on the evolution of the cultural institution is the entrenched division in museological practice between art and science and technology.

In "Museums on the Digital Frontier," [11] Friedrich Kittler describes the phenomenon of the Wonder Chamber, a model of transversal cultural collection and display that existed before the emergence of the modern museum institution as we know it:

... the objects assembled in wonder chambers at the dawn of the modern age were not only artworks ... These were accompanied by marvels of science, technology, and nature: fossils, physical tools, zoological freaks, and so forth. But then a historical caesura led to the modern museum – an institution barring any item that was not totally absorbed into its aesthetic ..."

Since then, Kittler claims, collections of art and collections of science have existed "according to the schema or schism of two cultures", and despite the encroachment of digital technology as both a means of production and reproduction of art: "[t]he rift between art and technology, as inflicted by the classical museum, remains untouched by modern forms of presentation ... the age of wonder chambers has not returned".

Experiencing interactive art means engaging with both art and technology and science. Ross Gibson has argued that its significance as a contemporary artform is in providing a lived experience of the complexity of modern existence in much the same way as the 18th-century novel allowed people to live through the changing complexities of that time [7]. Interactive art is a culturally provocative form that problematises the divisions of the "two cultures" and calls for a new kind of hybrid exhibition space.

In the past three decades, hybrid spaces have emerged around integrated art practice and new technology research, a phenomenon described by Michael Century [1] as the "Studio Laboratory." A crucial characteristic shared by the most influential of these centres is the combination of production with public exhibition and, in some cases, permanent collections of interactive artwork. It is in such cases, where the public meets the transdisciplinary creation of the artwork, where production and presentation are drawn together, that Barr's vision of the museum as public laboratory can be realised.

Building on this hybrid phenomenon, Beta\_space attempts to overcome the two-culture divide by placing interactive art in a science-and-technology context. In general, the science/technology side of the schism has tended to be more open to "infiltration" by art, with some high-profile institutions such as the Exploratorium in San Francisco and the London Science Museum exhibiting art as an increasingly integral part of their display strategy. They are developing an art historical context could exist within an overall emphasis on human enquiry and ingenuity.

### CONCLUSION

Beta\_space breaks down the boundaries between art, science, and technology and production and presentation through an iterative approach to creating and displaying interactive art. Purposefully including the audience in this process from the start changes the relationship of the artist and curator to the audience, and the relationship of the audience to the artwork, creating a culture of participation and contribution rather than consumption. This shift to audience engagement in making and curating is vital for cultural institutions to remain relevant to aesthetic experience.

### Acknowledgment

This research/work was [partly] conducted within the Australasian CRC for Interaction Design, which is established and supported under the Australian Government's Cooperative Research Centres Programme.



## REFERENCES

- [1] Century, M. 1999. *Pathways to Innovation in Digital Culture*. Centre for Research on Canadian Cultural Industries and Institutions/Next Century Consultants: Montreal.
- [2] Cornock, S., Edmonds, E. A. 1973. The creative process where the artist is amplified or superseded by the computer. *Leonardo*, 6, 11-16.
- [3] Costello, B., Muller, L., Amitani, S. and Edmonds, E. A. 2005. Understanding the Situated Experience of Interactive Art: Ima-scope in Beta\_space. In *Proceedings of Interactive Entertainment CCS Press: Sydney, Australia*. 49-57
- [4] Doherty, C. Editor. 2004. *From Studio to Situation*. Black Dog: London.
- [5] Edmonds, E.A. and Muller, L. (Forthcoming, 2006 *Visual Communications*.5.
- [6] Edmonds, E. A., Weakley, A. J., Candy, L., Fell, M. J., Knott, R. P. and Pauletto, S. 2005. The Studio as Laboratory: Combining Creative Practice and Digital Technology Research. *JHCS* vol. 63, 4-5. 452-481.
- [7] Gibson, R. 2004. The Rise of Digital Multimedia Systems. In *Proceedings of Interaction: Systems, Practice and Theory CCS Press: Sydney, Australia*. 271-283.
- [8] Graham, B. 199. *A Study Of Audience Relationships With Interactive Computer-Based Visual Artworks In Gallery Settings, Through Observation, Art Practice And Curation*. University of Sunderland: Sunderland.
- [9] Graham, B., Cook, S. 2001. A curatorial resource for upstart media bliss. In *Proceedings of Museum and the Web*. Archives and Museum Informatics: Pittsburgh. 197-208.
- [10] Hook, K., Sengers, P., Andersson, G. 2003. Sense and Sensibility: Evaluation and Interactive Art. In *Proceedings of Conference on Human factors in computing systems ACM Press: New York* 241 - 248.
- [11] Kittler, F. 1996. Museums on the Digital Frontier, in *The End(s) of the Museum*, J. Hanhardt, Editor, Fondacio Antoni Tapies: Barcelona.
- [12] Leach, J. 2003. New Technology Arts Fellowship: Evaluation Paper Commenting on Social Processes, Junction Art Centre: Cambridge [online] Available from URL: <http://www.junction.co.uk/ntaf>, accessed 3/06/03
- [13] Manovich, L. 1996. *The Death of Computer Art* [Online]. Available from URL: <http://www-apparitions.ucsd.edu/~manovich.text/death.html>, accessed 23/03/06
- [14] Robertson, T., Mansfield, T. and Loke L. Forthcoming 2006. Designing an Immersive Environment for Public Use. In *Proceedings of the Participatory Design Conference, PDC 2006*: Trento.
- [15] Schubert, K. 2000. *The Curator's Egg*. One-off Press, London.
- [16] Serrota, N. 1997. *Experience or Interpretation : The Dilemma of Museums of Modern Art*, Thames and Hudson: New York
- [17] Shanken, E.A. 2002. Art in the Information Age: Technology and Conceptual Art. *Leonardo*, 35, 4, 433-438.
- [18] Suchman, L.A. 1987. *Plans and Situated Actions: The Problem of Human-machine Communication*. Cambridge University Press: Cambridge.
- [19] Sutton, G. 2004. *Exhibiting New Media Art*. [Online]. Available [www.constantvzw.com/kris\\_search/000859.php](http://www.constantvzw.com/kris_search/000859.php), accessed 23/03/06.
- [20] vom Lehn, D., Heath, C., Hindmarsh, J. 2001. Exhibiting Interaction: Conduct and Collaboration in Museums and Galleries. *Symbolic Interaction*, 24, 2, 189-216.

# New Media, New Craft?

This paper will examine the use of computer programming in relationship to the practice and approach of traditional crafts, paying specific attention to the ethos of the Arts and Crafts Movement as a model for assessing the use and status of computation in a creative context. In order to consider the role of programming in the context of traditional craft, it is important to provide a brief outline relating to the ethos and practice of craft. What is understood by the term *craft*, what are its characteristics and outcomes? After considering this, it will then be possible to apply this understanding to the role of programming and its engagement with digital material.

## Understanding Craft

At the heart of a definition of any craft practice lies the idea of applied, skilled understanding and mastery of material (McCullough, 1998, 22). Regardless of medium, craftspeople must demonstrate an understanding and mastery of their will upon their chosen material. The musician, painter, sculptor, or writer must, in order to communicate effectively, understand the *essence* of their material, its structure, its parameters, and its pliability. It is the demonstration of this *understanding* that has traditionally been equated with the great skill of the craftsman. The implication is that this mastery is gained from a theoretical position (textbook knowledge) plus practical experience (tactile knowledge). Manipulating, “crafting” the material is a balance between the physical forces of hand-work and invisible forces of intellect and understanding, a notion which is most clearly and consistently argued through the work and writing generated by the Arts and Crafts Movement.

Founded as a reaction against the industrialization of creative practice, the Arts and Crafts Movement was driven forward by ideological principles that informed the nature and style of the work. For Ruskin and Morris, founders of the movement, the crafted object was never to be considered in isolation. Its wider significance and value were calculated in terms of the surrounding forces that helped shape it. The value of the crafted artefact had as much to do with the *invisible* approaches and attitudes of the craftsman as the beauty of the finished piece itself (Boe, 1977, 107). The final object thus gained significance as being a manifestation of the mental and physical engagement of the craftsman, a product of the balance among the three key themes of material, humanity, and environment. The practice of craft can therefore be seen as a unification of the head and hand, the thought and actions of the creator upon a given material (McCullough, 1998, 29). What happens, then, when the material changes and becomes the new material of a technological era? Do the ideals of craftsmanship alter? Is it possible to craft a new, technological material? These questions are important when considering a wider historical view of programming used in a creative context. Before considering this issue, it may be constructive to briefly consider the characteristics of digital material.

## New Material

Whereas traditional materials typically exude qualities of solidity, stability, and uniqueness, the virtual, temporal nature of digital material is more closely associated with ideas of formlessness, invisibility, and instability (Betsky, 2000, cited by Poyner, 2003, 113-114). The physicality of old, traditional material has been replaced by the “virtuality” of the new digital material.

Digital material is *formless*; it cannot be touched or handled but exists rather as a concept in the mind of the computer user. The non-physical material of the digital realm is closer to the realm of ideas and thought than the real, solid substance of traditional media. Decisions about the final form of the digital object therefore do not have to be founded upon the reality of physical dimensions; there are no physical barriers to the creation of the object. Digitally created pieces of work can be saved and re-saved into multiple versions. Elements of the code can be copied and pasted and redistributed to a mass audience. Creation of a programmed piece is not dependent upon a tightrope margin of error between success and failure associated with hand skills; errors with digital material can easily be deleted and re-edited. It is a medium not of originality but of *multiplicity* (Watson, 1998).

Digital material is also *unstable*; it lacks the stability and certainty of traditional material. The unchanging physical qualities of the “old” materials maintain an important element of history and continuity from one generation of artists to the next. In contrast, however, the technology of digital material is based upon less solid foundations; it is in a constant state of flux (Berry, 2001). It does not share the history or continuity of traditional materials, which play such an important part in the generation of a craft tradition. Has the material of creative production altered so much that the idea of craft can no longer be applied to it? Is there any place for skilled mastery or craftsmanship of the digital material?

## Craft-Like Attitudes

The non-physical nature of the new material means that comparisons with traditional forms of craft may seem to be fruitless. However, if we consider a broader “Arts and Crafts” definition of craft (one that encompasses the idea of craft as an *attitude* or ethos in the skilled manipulation of a material), then significant comparisons can be made. A consideration of craft in terms of attitude toward material, humanity, and environment offers up interesting areas of commonality.

To use computation in a creative context is to *understand* the material. The programmer must understand and speak the language of the computer in order to master the tightly structured, unforgiving rules of programming syntax and structure. Just as the craftsmen of

the Arts and Crafts Movement sought a deep, skilled understanding of, and harmony with, their material, so the application of programming in the creation of artwork demands a similar understanding of the computer material. Programming requires a disciplined and rigorous approach, and the development of creative work demands a thorough understanding of the structure and grammar of the code. Realizing the true potential for programming as a means of generating creative work involves a systematic process of learning and development. This “apprenticeship” process can be likened to that undertaken by masters of traditional crafts, in which a thorough understanding and mastery of material is developed through careful practice and application. The understanding of computer code, gained from systematic practice and application, affords greater understanding and mastery of the computer material.

Using programming to create a piece of art or design requires an abstraction of thinking, translating the idea of the final visual form into a structure required to create the work. A leap of understanding is required to translate a creative idea into a piece of code. Creative ideas and solutions are thus abstracted into structures and objects that are “natural” to the computer material. Such an understanding of material subsequently creates work that echoes the invisible structure of the code. Mathematical procedures and geometric structures, which are fundamental to the medium, are often utilized in the creation of work. Repetitive patterns, growing organisms, self-similar patterns are all mirrors of the computational structures that generate them.

The use of programming, as a way of manipulating and understanding the new material, also represents the means by which artists and designers are able to get *closest* to the virtual material. When they use programming to create a visual work, the underlying process and structure become of fundamental importance. The invisible structure of the work becomes as significant as the final outcome. The work experienced by the viewer is a visual translation of the underlying framework and “mental engagement” of the artist or designer with the material. In direct contrast to the post-modern point-and-click, cut-and-paste approach to creating a piece of creative work, the use of programming requires that a framework is firmly established, around which the work is built. For example, it is interesting to note the emphasis placed on the process and structure of programmed interactive work. ART + COM published various “sketches” of their large-scale interactive works, which include samples of code, highlighting the importance of the invisible process and structure that underpin the artwork.

Another characteristic of artists or crafts people who truly understand their digital or traditional material, its boundaries and capabilities, is the ability to use minimal material in the creation of work (economy of material). The superior programmer, just like the superior craftsman, can generate more efficient results from a minimum amount of code. Elegant programming, as in the craft process, structures the material in such a way that maximum use is made of minimal material.

Ruskin and Morris also observed that a key element in the value of the craft object is its *humanity*: the object as a representation of the artist’s skill, satisfying the basic human urge to create form from raw material. An important facet of the craft object is its link to the human process of creation. Just as the unformed block of wood or clay gives the craftsman raw material to begin sculpting, so computer

code gives the artist a “blank canvas” with which to manipulate the computer material. Working with code in a creative context thus satisfies the same fundamental human urge to create, to generate something from nothing. The directness of the process of programming with the computer allows the creator to directly manipulate the material without added software intervention. Code, therefore, opens up the computer as material for the programmer to work with, allowing skilled individuals to exert their ideas upon it and through it. The result of this process is that the programmed object itself may be considered as a type of hand-crafted piece of work, a manipulation of raw computational material as an expression of the practised skill and mastery of its creator.

The idea of environment, the third key factor in the work of the Arts and Crafts Movement, is also reflected in the character of coded work. The source of much program-based visual artwork comes, directly or indirectly, from the environment, either as source data for work or as inspiration from the creation of organic “life.” The computer as “reactive” material (Maeda, 1999) uses code to translate the sights and sounds of the environment into visual, interactive data. Programmed pieces of work are thus sympathetic to their surroundings; they become environmental pieces of work. Even the language of programming reflects the language of nature. The mathematical basis of computation intrinsically links it with the geometrical structures of natural growth and form. Fractal images, organic growth, self similarity, etc. are all ideas that originate in the natural world but which are often inspiration for and replicated by computational structures, in the digital realm.

### Artefacts

Having now compared attitudes toward both digital and traditional material, the final consideration is for the artefact itself. How can digital and traditionally “crafted” objects be compared? The traditional craft process culminates in the finished hand-crafted artefact. Likewise, when programming is used as a creative process, then the result may similarly be considered to be a digital “artefact.” Each of these artefacts is a product of the material and the processes that formed it; each reflects the nature and characteristics of its own material. The solidity and “reality” of the traditional object exhibits the singularity and stability of its material: its form is fixed, reliable, and physical. The virtuality of the digital object, by contrast, has no fixed form and inhabits no fixed space. It lives, distanced from the viewer, within the environment of any number of computer screens. The nature of the digital object denies its viewers the physical, tactile experience afforded by the traditional craft object.

The tactile, physical quality of a piece of traditional crafted work is a highly important element in the viewer’s understanding and appreciation of the work: visual and sensual experiences combine to present to the viewer a greater understanding of the object’s quality. Although the digital artefact cannot be physically touched, wider sensual experiences of a programmed piece of work play an important part in the overall quality of the artefact. A sensory experience of the object within the digital realm is manifest through the use of digital “sensations” (moving image, sound, and most notably interaction). The use of interactivity within programmed pieces of work provides a particularly interesting resonance with the human experience of seeing and touching a piece of traditional craft. Digitally programmed objects that involve human interaction (especially those that replicate physical properties such as gravity, elasticity, inertia etc.), can

engage the viewer in a kind of intuitive, sensory experience that evokes the same type of emotion and delight gained from handling a well-made, physically crafted, object. John Berger describes his visual pleasure while viewing some hand-made white birds, objects that express a “respect for material,” “unity and economy” (Berger, 1985 cited by Thackara, 1988, 23) of design, and the “mysterious skill” of their creator. This experience of encountering a well-crafted object that expresses the character of its material and the mysterious “how did they do that?” skill of its creator is echoed when viewing beautifully created digital artefacts (a J. Maeda or G. Levin piece, for example).

The second significant characteristic of the traditionally crafted object is the notion of its uniqueness, its “aura.” A hand-crafted piece of work gains status from the fact that it has been individually created, and that once born into existence, no exact reproduction of it will exist. The digital object, however, is a product of the copy-and-paste world of the computer environment. Once created it can be endlessly produced and re-produced across the globe; even the “original” hand-written code can be copied from elsewhere. The digital object is not characterized by its singularity but by its multiplicity. It is this very idea of multiplicity that may give us an understanding of the “aura” of the programmed work. Programmed pieces of creative art or design work are *dynamic*. In a state of constant flux, they typically have no single fixed state of being. During the course of its life-cycle the visual elements of a programmed object will alter and shift in response to different or even random environmental stimuli (time, human activity, etc.). The building block to all programming languages, the variable, creates a framework in which the notion of variance is a fundamental characteristic to any programmed object. The result: each time a user views a digital object it is likely to be configured into a different form; no two copies of the same object will provide exactly the same experience. It is the variance, the multiplicity, of the material that gives each object its individuality, its uniqueness, its “aura.”

## Conclusion

The initial understanding and definition of craft, in terms of a physical (visible) and cerebral (invisible) process, has afforded a wider vision of the role and importance of programming with regard to its dialogue with the digital material. Using the emphasis which Morris and Ruskin placed on the approach and *attitude* of the craftsman for his material, it has been possible to consider how programming, when used as part of a creative process, can echo the craft-like concerns and attitudes of the traditional artist. Each new revolution in material technology has brought with it artists and designers who seek to understand and use the material of the age. The intellectual engagement with, and concern for, the digital, virtual material of the artist-programmer may therefore be put alongside the Arts and Crafts tradition, with which it shares an ethos and outlook.

The implications of this central idea allow consideration of this new, digital material in the context of a wider discussion of the relationship between artist and material. Specific reference to the Art and Crafts Movement has provided particularly instructive comparisons, allowing a re-examination of the role and status of programming as a means of manipulating or crafting digital material. Despite the physical differences between traditional and digital material, we have seen how the use of programming constitutes a way of approaching and engaging with digital material, which has synergy with a tradi-

tional Arts and Craft ethos. The fundamental importance that both traditional craft and computer programming place upon the notion of material emphasises this commonality. Both processes highlight the need of the creator to engage with and understand the essence of their “material” on a fundamental level. The physical boundaries and restrictions of traditional material (clay, wood, etc.) and the virtual, intellectual boundaries of programming syntax and structure demand a disciplined approach to each material if it is to be moulded and mastered. The emphases that Ruskin and Morris placed upon the wider moral and intellectual aspects of craft as a process correlate with similar attitudes and concerns shared when using programming as a means of engaging in creative practice with computational material. Artists who create digital artefacts by using programming share much common ground with crafts people who create artefacts from wood or clay. The material may change, but the underlying ethos and attitude remains. Programming as a means of creative practice provides the best way for an artist to engage with, sculpt, or manipulate the computational material. It has significant resonance with the ideals and ethos of the craft process. The artefacts created from the process have resonance with traditionally crafted objects and thus demand a reclassification of its status as a utilitarian process of engineering to a type of digital craft.

## References

- ART + COM. 2006. ART + COM (processing sketches [online]. Available from: [www.artcom.de/process/](http://www.artcom.de/process/)
- Berry, J. 2001. The Thematics of Site Specific Art on the Net. Thesis (Phd): University of Manchester.
- Bøe, A. 1979. From Gothic Revival to Functional Form – a study in Victorian theories of design. New York: Da Capo Press.
- Crimp, D. 1990. On the Museum's Ruins. In: Postmodern Culture. Foster H. ed London: Pluto Press., 43-56.
- Cumming, E. 1991. The Arts and Crafts Movement. London: Thames and Hudson.
- Fuller P. 1988. The search for a post modern aesthetic. In: J Thakara, ed. Design After Modernism. London: Thames & Hudson, 117-134.
- Maeda, J. 1999. Design By Numbers. Cambridge, Massachusetts: The MIT Press.
- Manovich, L. 2002. Generation Flash [online]. Available from: [manovich.net/TEXTS\\_04.HTM#articles](http://manovich.net/TEXTS_04.HTM#articles)
- McCullough, M. 1998. Abstracting Craft: The Practiced Digital Hand. Cambridge, Massachusetts: The MIT Press.
- Meggs, P. 1998. A History of Graphic Design: Third edition. New York: John Wiley & Sons Inc.
- Pevsner, N. 1960. Pioneers of the Modern Design: From William Morris to Walter Gropius. Harmondsworth : Penguin
- Poyner, R. 2003, No More Rules – Graphic Design and Postmodernism. London: Laurence-King Publishing.
- Thackara, J. 1988. Design After Modernism. London: Thames and Hudson.
- Watson, N. 1998. Postmodernism and Lifestyles. In: The Icon Dictionary of Postmodern Thought. Sim, S. Cambridge: icon books, 53-64.



# Marking Space: on Spatial Representation in Contemporary Visual Culture

## Introduction

The following paper looks at different ways that space is being dealt with in contemporary visual culture, and attempts to link these evolving modes of spatial representation to emerging technologies, particularly GPS, GIS, and OpenGL, as well as to suggest links between the depiction and thinking about space in the current moment with similar or related explorations from the history of late-twentieth century avant-garde artistic practice.

While this paper is necessarily more suggestive than exhaustive, I've made an attempt to choose contemporary visual practices and practitioners that I felt could stand as representatives for larger tendencies in their respective domains. This paper originated as a somewhat personal document, an attempt to situate my recent art practice within a larger historical and cultural context. As such, at times the links between these divergent practices must be made through the sensibility of the author.

## Historical, Theoretical, and Contextual Context

Lev Manovich writes in *The Language of New Media* on "spatial montage" as a mostly overlooked cinematic mode, in which time is flattened and narrative is presented through the presentation of multiple images at once, where the space of the screen is "cut" and "spliced" to favor simultaneous action unfolding in space over linear action unfolding over time.<sup>1</sup>

Manovich's examples of spatial montage range from the first use of a split-screen effect in the cinema of the 1920s through the "expanded cinema" of the 1960s exemplified by the work of Stan Van der Beek, to the web-based interactive piece "My boyfriend came back from the war!" by Olga Lialina. While he includes a mention of the dual-screen interface in the Goldeneye video game, in which the player can view the action of the game from two perspectives at once, Manovich limits his formulation of the spatial montage to motion pictures shown on multiple screens simultaneously, stopping short of a structural exploration of the virtual space of 3D video game environments.<sup>2</sup>

It may be well worth thinking about another sort of simultaneity present in these virtual worlds, a simultaneity that springs from the fact that the entire space of the game is present from the beginning to the end, laying in wait for the player to discover it, for the processor to render it, to make it visible. In contrast to Manovich's formulation of spatial montage as various motion picture sequences viewed concurrently, this is a cinema of space that functions through limiting the player's view of an always already complete universe. Since the player can only see what is in direct proximity and can only effect what can be seen, be it an obstacle to be navigated or an enemy to be destroyed, the narrative of the game is directly linked to the player's location within and movement through the space of the game. The construction of the game's experience is as much an act

of architecture as of storytelling, as different elements of the story are mapped to specific sites within the game's environment, and the timing of events is contingent on the avatar's movement through this virtual space.

In 2003, London-based Sony subsidiary SCEE Team Soho released *The Getaway*, a game for the Sony Playstation 2 console. The game's very linear story directs the player through the various missions of a gangster/crime drama, first from the perspective of a just-out-of-the-joint gangster, then as a detective following in his wake. The game's aspirations toward an interactive, spatialized cinema are clearly evident in its use of in-game indicators and, most spectacularly, in its setting within a detailed model of London.

Team Soho eschewed the standard practice of using health meters, time counters, and maps to tell players how they are doing in the game. Instead they made the avatar's health apparent in his behaviour (limping, bleeding, etc.) and used vehicles' turning signals as indicators to help a player navigate the game's terrain. *The Getaway* contains a detailed model of 40 square kilometers of central London, which Team Soho painstakingly constructed, using some 30,000 digital photographs as visual references, at a development cost in excess of 5 million British pounds.<sup>3</sup>

The ability to drive recklessly through a familiar (to some) landscape was frequently lauded in reviews as one of the game's main attractions, and upon beating the game the player is rewarded with the ability to simply explore the modeled city without a clear objective.

While *The Getaway* strives to mimic the appearance of a traditional film, it remains, of course, a video game and as such has a structure vastly different from that of a film. While a film consists of a series of discreet photographs (or, in the case of much contemporary cinema, highly composited images), a video game such as *The Getaway* exists as a collection of diverse components (e.g., mathematical models of environments and characters, programmatic objects and functions, bit-mapped images, rendering instructions, a "camera" matrix, a timer, etc.) that are mutually dependent and responsive to one another and to user input. The components that make up such a game space are, of course, ultimately reducible to initial data, instructions for processing that data, and instructions for displaying the result of these calculations. The image that fills the frame each time the screen is refreshed is determined by and reflective of the specific state of these components at that exact moment.

Because *The Getaway*, in following the norm for commercial 3D video games, so aspires to cinematic photorealism, it is easy to forget that its illusionistic perspective is but one mode of visualizing the complex spatial model and the processes that make up the game, chosen from amongst infinite other possibilities.

GPS<sup>4</sup> is an interesting technology because it popularizes the ability to take highly accurate recordings of one's location, and because it understands terrestrial location in terms of four data-points; longitude, latitude, elevation, and time. This enables us to understand our world as a vast collection of potential locations, each discreet and specific, within a spherical four-dimensional matrix. The method of the GPS-equipped cartographer becomes one of data acquisition and visualization, as location takes on an objective quality in addition to its relative and experiential qualities.

The accessibility of a means to generate accurate locational data provided by GPS has proven very attractive to artists, and a long-standing interest in the exploration of spaces and mapping within the artistic community has recently been revitalized under the banner of "locative media". This new-media neologism includes the work of artists and theorists concerned with theories of space and place, locational identity, urban planning theory, and location-aware devices and technologies (mainly mobile computers and telephones equipped with GPS, and GIS).<sup>5</sup>

Many locative-media projects use the GPS system to generate or call attention to patterns of behavior and meaning that might otherwise remain invisible. This reliance on and exploitation of a pre-existing system (GPS) for the generation and/or revelation of meaningful new forms can easily be read as an affinity of strategy between contemporary locative-media works and conceptual art of the 1970s, the Situationist *dérive*, mail art, early web art, and contemporary interventionist and tactical media strategies. Of these, I believe the Situationists, particularly with their development of psychogeography, are the most directly influential on contemporary locative media.

The Situationists International<sup>6</sup> developed the notion of psychogeography as a field of inquiry into the operation of urban environments and architecture on the human psyche and the ways in which a city influences its inhabitants' behavior. Psychogeography was conceived of as one strategy for the development of a "unitary urbanism," a utopian ideal of the city as an environment for the free play of its inhabitants, who were supposed to be past the necessity to work by the new automated manufacturing capabilities of the 20th century, and whose chief activity would be to playfully adjust their built environment to suit their desires.<sup>7</sup>

The main method for the generation of psychogeographic data was the *Dérive*.

One of the basic situationist practices is the *Dérive* [literally: "drifting"] a technique of rapid passage through varied ambiances. *Dérives* involve playful-constructive behavior and awareness of psycho-geographical effects, and are thus quite different from the classic notions of journey or stroll.<sup>8</sup>

Basically, this was a process of wandering as aimlessly as possible through the cityscape and taking note of areas of attraction and repulsion, preferably in groups so as to take measurements that would be more accurate for relying less on an individual subjectivity. The actual form of the psychogeographical data varied in form from written descriptions to expressive maps and collections of ephemera gathered during the *Dérive*.

One artist working with locative media in particularly evocative ways is Masaki Fujihata. Fujihata's series of Field-Works involve him walk-

ing along very intentionally chosen paths and collecting GPS data, video images, and sound recordings on his travels. He later creates three-dimensional maps of his travels from the GPS data and plots images according to the point at which they were recorded, using data from an electronic compass to place the photos at the correct angle within his map.

In contrast to the Situationist methodology regarding the *Dérive*, Fujihata is very intentional about the path that he travels and leans on these decisions to supply some of the meaning in his work. For instance, in *Field-Work@Alsace*, 2002, Fujihata travels along the border between Germany and France. In *Field-Work@Geneva*, he invited several professional interpreters who had emigrated to Geneva, Switzerland, to walk with him, each in turn, from their apartment to a place of their choosing, where they would feel "at home," and Fujihata interviewed them during their walks, creating a commentary on locational identity on multiple scales (the international to the national to the local and personal).<sup>9</sup>



Figure 1

In Fujihata's three-dimensional trace-route maps, the presence of the precisely plotted and oriented photographs makes the white trace-route lines suggestive of the infinite number of undocumented spaces, moments, and perspectives of his performance. Where the photographs were shot near one another, a ruptured continuity forms between the frames, and from the collection of images a landscape begins to form, lifted neatly from the specific time(s) and place(s) of the performance to be reconstituted in a digital space. This again brings to mind the notion of the spatial montage, as the images are juxtaposed according to the places they were taken, and together form a virtual space that is both suggestive and reflective of the real space, time, and performative travel that it serves to document.

GPS technology, as a product of the military-industrial complex, is, of course, inextricably bound to the concerns of the dominant forces within our increasingly globalized, late-capitalist world. As Western corporate capitalism expanded in the late 20th century, opening markets around the world (often forcefully and enlisting the aid of national militaries), it has become increasingly advantageous to have

access to immediate and accurate locational data on a global scale. GPS can be viewed as a product and a tool of the growing need of corporate and military powers to accurately map spaces and track locations, for reasons more or less sinister.

Julie Mehretu is a painter whose work deals with themes of geography and mapping, globalization, and the frantic kineticism of contemporary urban life. Her paintings layer architectural forms taken from blueprints and plan views with sweeping lines and symbols that are evocative of weather charts and cartographical markings. Mehretu's paintings are built up in layers of drawn and painted marks between layers of a translucent acrylic-and-silica mixture, beginning with architectural forms, and then with groups of gestures that she calls "characters" and which she uses to create narrative flows both large and small.<sup>10</sup> The layers in her paintings seem to function as multiple levels of figure and ground, extruded (exploded?) out into a 3D space, and also to demarcate the passing of intervals in time, with her characters moving, reproducing, connecting, expanding, with each progressive layer.

This technique allows for a flattening of time into an onion-skinned simultaneity, wherein the abstract narratives unfold, extrude, and explode through space, and characters are extrapolated into volumes. This recalls the notion of the spatial montage, like an open-exposure photograph read as a motion picture, where volume becomes movement. The logic of the cut is here replaced by that of the long exposure, as if the frames, rather than advancing in series, chose to stay put, to pile upon one another, upon the screen or canvas.



Figure 2

In interviewing Mehretu, Olukemi Ilesanmi suggests a relationship between her work and the work of the Situationist International, a correlation that she acknowledges thusly:

I am totally behind the idea that a fully realized, creative, individual impulse can rock the boat. Especially right now, at this point in the super-rapid evolution of a geopolitical global situation consumed by and with American Capitalism. I am inspired by and interested in the subversive, anti-establishment impulse of the various Situationist projects as well as others that share this impulse: Constant's New Babylon, David Hammons, punk rock, gangster rap. I am also interested in the potential of "psycho-

geographies," which suggest that within an invisible and invented creative space, the individual can tap a resource of self-determination and resistance. It is especially potent in a self-propelling and self-consuming context completely colonized by standardization. This impulse is a major generating force in my drawing and my larger conceptual project as a painter."

### Analysis and Synthesis

While I've been interested in the intersection between the body and technology for some time, in my work and in my thinking, moving from rural Iowa to New York City has absolutely heightened my awareness of the relationship between my body and the space it occupies, and I believe that this new awareness is primarily responsible for the direction of my recent work. The combination of the preciousness of personal space with the thoroughly considered, entirely constructed nature of the "landscape" and the density of meaningful, interpretable spaces found in an urban environment led me to think about the relationship between the human body and the built environment, and to consider more thoroughly digital technologies concerned with spaces real and virtual.

Still preoccupied by interface between the "real," or physical world and virtual spaces, it seemed natural to think about GPS technology as a system for sampling the physical environment as a series of data points, which could then be subjected to a nearly infinite number of processes, the most obvious being the visual modeling of the original space. This process of transforming actual space and time into a mathematical model is what led me to *24hours Walking Manhattan*; I was interested in exploring all that was stripped away by this process: the specificity, the liveliness, the irreducible physical, bodily realities.

Of course, I couldn't think about virtual spaces without considering 3D gaming environments, undoubtedly the most pervasive and popular type of virtual spaces around. It is interesting to think about other possible models for the visualization of space and for the relationship between data input and visualization. The more I've thought about the "back end" of 3D gaming environments, the more I've come to understand them as data input, processing, and visualization loops (following the input-processing-output model nearly universal to computing), and the more I am compelled to explore alternate forms of spatial data visualization in my own work.

### Conclusion

In conducting this research, I've come to a much more thorough understanding of my position within the field of digital art and contemporary art generally. While I feel that I've come to understand my working context much more acutely through this research and feel that I am much more able now to define my own "project," in the largest sense of that word, I also came to recognize room for development in my chosen field.

In working with GPS technology, a technology which is hardly unique amongst those being actively explored within the new-media community for its having been developed by the defense industry, I've come to feel that the exploration of technology by artists must develop as a space resistant to and critical of the socio-political order from which these technologies were born, lest the artists themselves become complicit with the agendas of the military-industrial complex. I recognize that this is not a novel sentiment, and that there are many people doing good work in this direction, in an increasingly



adverse political climate. Still, I feel that it is worth stressing the importance, in this time of illegal and unjustifiable imperialistic war-mongering and rapidly diminishing civil liberties, to, as a media artist, take a well-considered position within the social sphere and in relation to the technologies through which social and political relations are constructed and enforced.

## Bibliography

Debord, Guy-Ernest. 1958. *Theory of the Derive*. Internationale Situationiste #2.

Trans. Ken Knabb.

Fogle, D. and Ilesanmi, O. 2003, *Julie Mehretu: Drawing Into Painting*, Walker Art Center, Minneapolis.

Ford, S. 2005. *The Situationist International: A User's Guide*, Black Dog Publishing, London.

Fujihata, Masaki, 2005,. *Field-Works*[online], available at [www.field-works.net](http://www.field-works.net)

Locative Media, 2006, [online wiki] available at [en.wikipedia.org/wiki/Locative\\_media](http://en.wikipedia.org/wiki/Locative_media).

Manovich, Lev. 2001. *The Language of New Media*, MIT Press, Boston.

Williams, Bryn, 2003. *The Getaway*(review), Gamespy [online], available at [archive.gamespy.com/reviews/january03/getaways2/](http://archive.gamespy.com/reviews/january03/getaways2/)

## Endnotes

<sup>1</sup> (Manovich, 2001, p. 237)

<sup>2</sup> (Manovich, 2001, p.237)

<sup>3</sup> (Williams, 2003)

<sup>4</sup> NAVSTAR GPS (Navigation Signal Timing and Ranging Global Positioning System), commonly known as GPS, is a satellite navigation system developed by the United States Department of Defense. Development of GPS began in 1967 and reached its current state in 1989. It has since become available for limited and selective civilian use, with the military reserving its more accurate dual-frequency mode and reserving the capability to selectively shut down civilian access within war zones or in times of global alert. Military applications of this technology range from cartography to precisely synchronized timing and missile guidance, while civilian applications include orienteering, trip planning and vehicle tracking, guidance for the vision impaired, collaborative games, aeronautic navigation, and location-aware advertising. GPS receivers work by calculating the distance between the receiver and four of the 24 GPS satellites in orbit around Earth to determine the precise location of the receiver in three dimensions. In this way, it determines not only the present position of the receiver in relation to another receiver, or to that receiver's previous position, but its proximal relation to every other possible position, its exact location within a four-dimensional matrix of precisely quantifiable possibilities. For a more complete description of the mathematics involved in this calculation, please visit: [en.wikipedia.org/wiki/GPS](http://en.wikipedia.org/wiki/GPS).

The receiver is capable of determining its precise latitude, longitude, altitude, the precise time of the reading, and the accuracy of its calculations. The position of a GPS receiver is determinable to an accuracy of 10cm (4 inches). GPS receivers can then use these data to calculate the velocity and direction and movement of the receiver as they change over time.

<sup>5</sup> (Locative Media, 2006)

<sup>6</sup> The Situationist International was an avant-garde organization of artists/ writers founded by Guy Debord, who, in addition to organizing shows, producing films, and engaging in lively (and often divisive) political and theoretical debate, published the journal *International Situationiste*. For more on the Situationist International, please see Simon Ford's *The Situationist International: A User's Guide* (2005, Black Dog Publishing, London) and Sadie Plant's excellent *The Most Radical Gesture: The Situationist International in a Postmodern Age*(1992, Routledge, London and New York)."

<sup>7</sup> Unitary Urbanism found its most lucid expression in artist and situationist Constant Nieuwenhuys' New Babylon project, which he worked on from 1956 to 1974. New Babylon, which originally bore the working title *Dériville*, was conceived of as "a series of environments and buildings designed to be infinitely re-arrangeable" by their (post-revolutionary, liberated) inhabitants (Ford, 2005, 74). The idea was to create a de-centered urban environment that, through its constant adjustment and adaptation, would free people from social control and class stratification common to static cities.

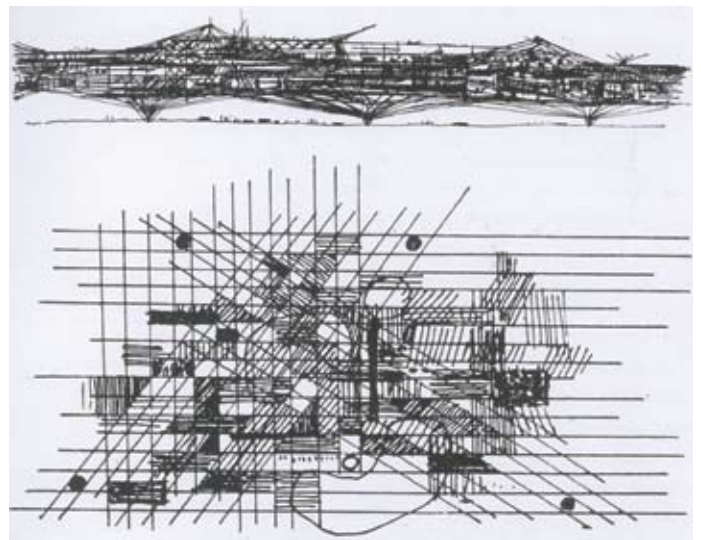


Figure 3

Constant, *Illustrations from International Situationiste, no.3, 1959*.

<sup>8</sup> (Debord, 1958)

<sup>9</sup> (Fujihata, 2005)

<sup>10</sup> Fogle & Ilesanmi, 2003, 13

<sup>11</sup> Fogle & Ilesanmi, 2003, 14



**James Faure Walker**  
 University of the Arts, Camberwell  
 London, United Kingdom  
 james@faurewalker.demon.com.uk

# Painting in a Digital World: I Told You So

Over the past 10 years, the proportion of painters who use computers in their work has been rising, and rising dramatically. They may not all be expert users, and they probably know next to nothing about digital art or its origins, and nothing at all about its pioneer artists. They will not have heard of SIGGRAPH. They read Frieze. They probably outnumber hardcore digital artists by a factor of 50 to one. So if we are to speak of the way things are going in “digital art,” they are part of the picture.

In the 1990s, it was different. Only a handful of galleries (specialist digital art galleries) exhibited inkjet prints as fine art. Today it is hard to find a leading gallery that does not show inkjet prints or photos (digital, of course) mounted on aluminum. Art fairs are full of video projections, sound pieces, and installations that in one way or another are digital. Put simply, the landscape has altered. It is now overpopulated with digital users. If you are a painter who went digital all those years ago when it was cold out there, you can unlock the door. You are not alone.

A comparison with photography may be forced, but it is worth considering. The speed of the digital take-over has been extraordinary. Only a few months ago, 60 percent of the shelf space in Jessops, the major London camera chain, was devoted to digital cameras. By Christmas last year, it was 100 percent. To buy an old-style SLR camera, you now have to go to the branch that sells “classic” equipment. The explanations for this are well known: the ubiquity of camera phones, the booming sales of digital SLRs, the low cost of printers and print facilities. But bear in mind that many professionals have adamantly rejected digital photography until quite recently. They opposed it both on principle and because of its technical shortcomings. They were worried that their hard-won skills would count for nothing. In fact what seems to have happened is that while the technology has changed, and the number of photographs taken has skyrocketed, the most important factors remain much the same as before: a good eye, a good idea, patience, luck.

What then of painting? Is it destined to go digital? Would this happen universally, decade by decade, or rapidly? Would the art form somehow change completely yet remain the same underneath? And what role should the digital art community play? Should the SIGGRAPH Art Gallery be more open? Or does it no longer make sense to speak of this as a community, or as a group capable of adapting to new circumstances?

A decade ago, digital art shows were given subtitles like “the art of the future” or “beyond painting.” Traditional painting hardly got a mention except as a has-been technology. It was there as the ghost, the bourgeois art form, non-interactive, unresponsive to the new customer who expected a piece of art to do something, something

like say hello. The curator of new media will casually mention that painting is “over” as if it were a given among the digerati. Here is a phrase from the SIGGRAPH 2005 Electronic Art and Animation Catalog: “... the now-wearied exertions of the 20th century’s picture plane.” Yet the pot-pourri of post-modernist styles suggests otherwise. That concept of progress in art, of one phase superseding another, whether tired or not – that’s history. So “new media” is on a somewhat anachronistic track: a one-way track. No going back! No mixing! It’s all historically determined! Goodbye non-interactive art! You’re exhausted! Any attempt to integrate, to reconcile the disciplines of that wretched, tired-out 2D picture-plane, is doomed. It is just new tech trying to look like old tech. It’s time to put those paints away.



James Faure Walker  
*For the Bees: Night 2005*  
 22 inches x 29 inches  
 archival print on aluminum

Well, no, it isn’t. Perhaps the issues are really tolerance, acceptance, recognition of a new diversity in the use of digital tools, liberating so-called “digital art” from its monotonous futurology. Now the possibilities may lie as much in hybrid formats (and yes, digital prints may be part of this) that bridge the gap with mainstream artists. It means admitting that “digital art” may not be the most advanced kind of art. For artists who are as enthusiastic about new software as they are about “traditional” art, this intermediate territory is fascinating, but it is curiously unacknowledged by commentators. Recent anthologies of net art, virtual art, interactive art, have been intent on defining formats that are exclusively digital. They don’t mention how far digital tools have infiltrated mainstream art. They don’t mention that “regular” artists tend to by-pass the “digital art” community. It is as if

the writers all take the same view, that painting, installation, and video are each in their various ways clapped out, and the only new, the only cuttingly subversive, initiatives are coming from narrowly defined digital specialists. There is no mention of the prevalence of video installation, nor of the current resurgence of painting, of its integration with digital ways of seeing. Actually, sometimes they don't mention "digital painting" either. Perhaps they mean to say that it doesn't exist.

To be fair, at the moment it is not clear what "digital painting" means, or might mean in the future, or indeed whether it represents anything more than a sub-culture that can be justifiably ignored. To be a plausible category, it should at least be a breakaway category, distinct from the parent. Is an inkjet print a digital painting or a print? Does this matter? Well, it could. The logic behind "new technology equals new art form" used to sound invincible. Yes, the art you make with these computers will be different, significantly different. All the fundamentals will shift about as artificial intelligence, interactivity, virtual presence, the net, come into play. Just wait! A new breed of artist will be at the controls, and the trad painters will disappear the way stonemasons disappeared once sculpture decided to get modern. Painting is yesterday. So the last thing that you would expect, or want if you had just given up your studio, would be a resurgence of painting smartened up with a combination of clever software, brilliant printers, cheap projectors, and fearlessly ambitious young artists. The newcomers are open-minded. They simply circumvent the born-again ideology of the digital purists, all that hot air about the New Art. There is no contradiction between an "old" format and a "new" processing device. There is nothing wrong in working with fake paint at the same time as real paint. Life is like this now. Instead of a pack of slides, you carry the slides in the iPod. It's a change, but maybe not a revolution.

Art stores have been stocking inkjet papers for some years, but the shelf space for "traditional materials" has not been giving way to boxes of software. All the indications suggest that there will be no outright take-over. "Physical painting" and "digital painting" are destined to co-exist. For the present, you will not have to track down a "classic art" store to get hold of that cadmium red. But in the context of a digital art show you can still feel this invisible barrier. It is like an inhibition, a reflex that makes you clam up, stifling a spontaneous response. ("I can't say I like this till I have checked through the technical statement; it may just be a new filter.") It is as if what is good, bad, indifferent here has to be for reasons quite different from the reasons we apply in a "traditional" gallery (any gallery not part of a computer conference, or an art-of-the-future show). But now we can come across superb pieces in regular art shows that don't parade their digital credentials (that's background) even though these pieces could not exist without the digital controllers. Leo Villarreal's light environments are one example. The digital category no longer makes much sense, or only a perverse sense, where digital art aspires to be real art, and real art aspires to be digital. It is confusing, to say the least. It also discourages the "mainstream" artist with real enthusiasm for the digital from getting involved.

New "mainstream" critics now breezily announce that we are beyond the phase where computer art was just about psychedelic patterns; they single out painters who manipulate software like real artists should, artists fluent and at ease with the medium. It is now just another technique. For those who were making digital pieces 20 or 30 years ago the hard way, amidst skeptical colleagues in the painting world

proper, this may be hard to take. Painters fresh out of college can now scan, process, print, paint, project video imagery without any technical obstacles. The road is open. Yet there is no aesthetic law that says that overcoming difficulty is itself a virtue, and no law that says doing it first means doing it best.

Certainly, it is worth setting the record straight, and making sure the past decades of extraordinary effort are not forgotten. But the old stereotypes that kept digital art afloat no longer fit. Some artists probably thought they never did fit and felt embarrassed about the hype and the uncritical attention given to what in other contexts would never get past the door. But these artists initially had to work on their own, so they liked the company, the acceptance, the feeling of being part of the club, being in the vanguard. They got to live in the future while their neighbours lived in the past.

No longer can you put digital (avant-garde, the future, the edge) on one side, and painting (traditional, over) on the other and just leave it at that. Some critics have noticed a growing tendency in digital art to look back, not just with retro styles and personal family histories, but also by documenting the pioneering days of digital art itself, booking its berth in the museum. Meanwhile, it is the painters, the installation artists, who have turned their attention to the future. Theories? Well, here is one: perhaps the deepest impact of computer graphics will only be felt once the mainstream has absorbed it. Digital art will dissolve away as a category. Painting will continue.

What made digital art distinctive 10 years ago (sending a jpeg through "cyberspace") no longer makes it distinctive. It is time to drop the special pleading, as if this art is so advanced that it needs some sort of technical manual for the non-expert to get hold of the idea. The "technical statement" (still obligatory in a SIGGRAPH Art Gallery submission) is a legacy of the phase when computer art really was computer art, when both software and hardware were custom built. The story of the process involved in weaving the image together could be as interesting as the image itself. It was a triumph of homemade engineering. Nowadays if you say "I used Photoshop," you are not saying anything. It would be like exhibiting a drawing and saying: "By the way, I used a 2B pencil,"

Digital art has existed in this limbo where you cannot predict whether a viewer has been reading Computer Graphics World or Artforum, or neither, but is unlikely to have read both. In an ideal world the exhibits would be self-evident, and a curator could orchestrate an exhibition to bring out similarities and contrasts, identify influences, show how one form evolved into another. But this doesn't happen. The context is no context. The actual work on show, be it an Epson print or an immersive interactive sound piece, may need some helpful explanation. It doesn't, so to speak, work on its own. In a normal gallery context the viewer should be able to get the point in a glimpse. This assumes they are aware of the milieu, pick up the subliminal signals, the codes in the gallery décor, or lack of décor. They see "the piece." They like it, they don't like it, they shrug, they look at it again, they leave. Enough said. A week, a month later they can read a review and reflect on what they missed. Digital art is not like that. It is rarely reviewed, or commented on with the cold eye of the critic. Most of what is written is gently supportive and uncritical. It is written by the artists themselves.



James Faure Walker  
*Found, Drawn, Painted 2005*  
 26 inches x 34 inches  
 Archival print on aluminum

Put crudely, up to now “digital art” has not had to face up to the more or less public scrutiny of art in the gallery. It exists in a protected zone, where its importance, or self-importance, does not have to endure the real test. This is fair enough, in that just to make something happen required a lot of time, expertise, and money, all of which was much more possible if you had some sort of academic position. Digital art has marked itself off as being “different.” True, there have been prestigious shows where digital art seems to be endorsed by major museums, and there have been authoritative books parceling out the sub-categories. These tend to uphold a segregation policy: an official “new media” room customized for “edge” art, for example. It suggests a peculiar consensus. Is painting really “over?” How long can an art form be an edge form? Who is weary of what? Can’t we have painting, digital art, and other formats all mixed together without divisive put-downs?

Perhaps this is asking too much, and for some time to come “digital art” will continue with its traditions of splendid isolation. Alongside the technical statement runs the “artist’s” statement. The “piece” becomes something other than a row of wired up boxes in a dark space, something hanging on the wall. The user is told it is a cultural investigation into, let’s see ... global simultaneity ... the disembodied mind ... synaesthesia. A decade ago, an exchange of “real time” video across thousands of miles (“here is the sky outside my window. Now show me the sky outside yours.”) was right there on the edge, worthy of at least a paragraph of speculation about “telepresence.”

There is this latent inferiority complex of an earlier phase, when computer art really was computer art. It was difficult to get it taken seriously. It needed to demonstrate that there was more to it than a few tricks with an electric spirograph. There had to be Philosophy, and a Position about the World. So the Artist has Something to Say. This is Content. The Artist programs this into the circuitry, and it wafts through the machine and “emerges” (a favourite term, like it’s consciousness) as Art. This is not the way art normally happens except in student projects up for assessment: here’s the project brief, here’s the technical stuff. As long as this particular stereotype persists, “digital” shows will look just a little irrelevant, and remain unnoticed by those making the running in the larger art worlds.

This essay began by noting the quiet invasion of the digital into painting – by the back door you might say. Sooner or later, the presence of so many “computer literate” artists (another phrase fast becoming redundant) will have to be acknowledged amongst the community of digital artists. Does this community still hang together? Perhaps it will soon disperse, as every artist becomes in effect a digital artist, if only by sending that jpeg. Perhaps splinter groups will continue, becoming impenetrably academic, disappearing into art theory, into PhD research.

The complex social mechanism we casually describe as the “art world” is meanwhile making its own adjustments. In comparison, the communities clustered around the SIGGRAPH Art Gallery, ISEA, Ars Electronica, the Digital Salon, are small players. It is hard to imagine how digital art could have got off the ground at all without these and similar focal points, without the dedicated efforts of so many individuals. Major galleries now routinely present installations that a few years ago would have turned up as prototypes in digital shows – relatively shabby shows without any of the social grooming, white cavernous spaces, and polished concrete floors. The “proper” galleries have a lot more muscle than any digital art organization, and they can cream off the talent at will.

Put this way, it sounds unfair: inventors being dumped while someone else runs off with all the credit and the rewards. But there could be a bright side too. Sooner or later, there just have to be some large-scale exhibitions that make a fair assessment of how computers came to be used by artists, how several trails were laid, how some led nowhere, how the mainstream picked up the scent here and there. If confined to painting in all its forms, such exhibitions would work much better if they bridged the divisions between digital and non-digital, expert and non-expert user, and steered clear of the idea of this all being “machine art.”

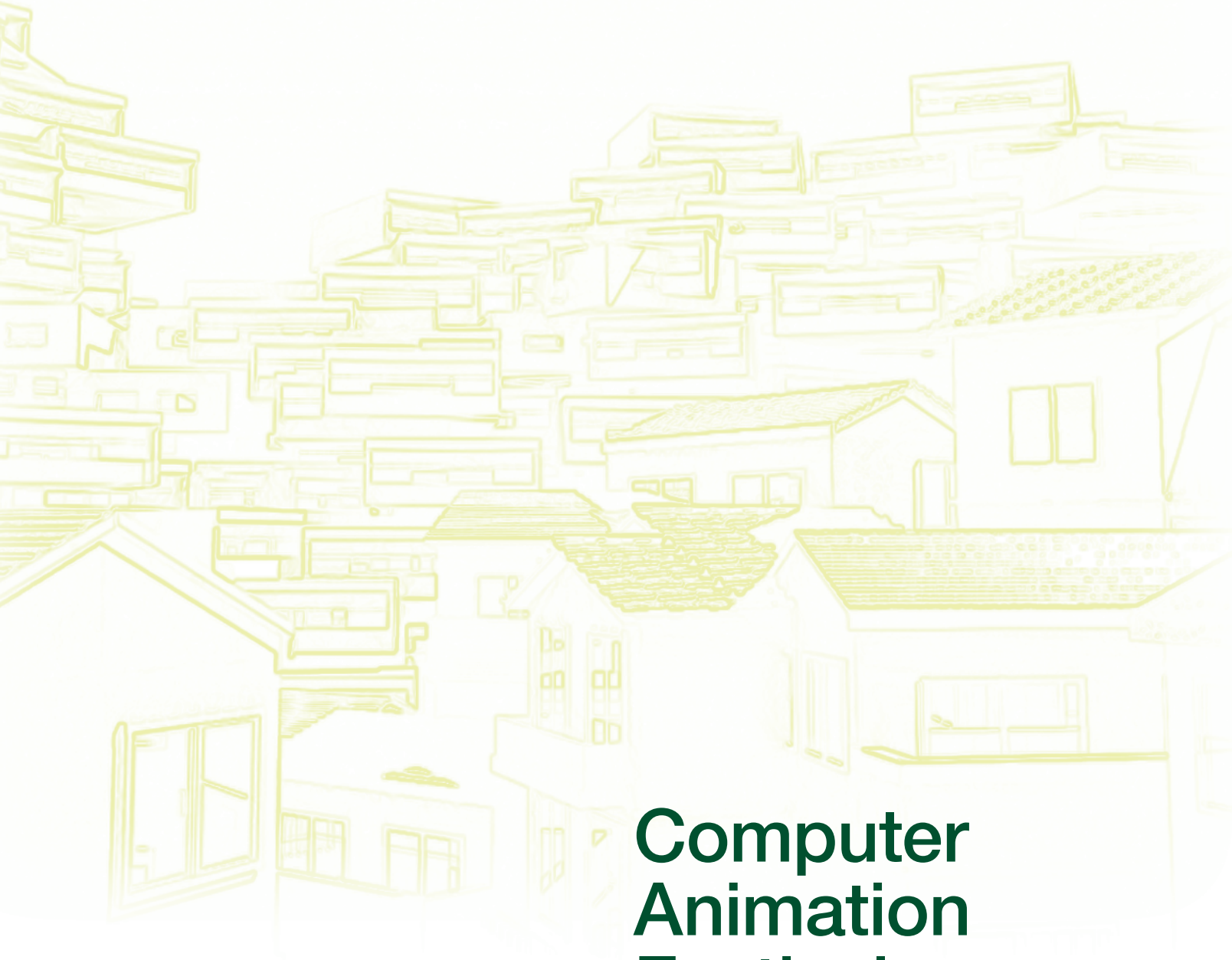
In art school libraries “digital art” sometimes turns up alongside drawing techniques, sometimes next to ships and planes under machines, but never, it seems, just as art in its own right. This has to change, and it surely won’t be long before a handful of art stars will be picked out from the digital shows, and the whole enterprise will become more prestigious, absorbed into the culture of art fairs where here and there a “piece” will become top-class art merchandise. In turn, this will encourage software developers to make paint software that caters to the more ambitious user.

At the moment, the target user is the Sunday Painter, and the demos don’t exactly stretch the horizons. Someone has to wake up and produce software for the artist that does the job the way Photoshop does the job for the designer (that is to say, for the professional, demanding designer). Would this mean swapping the easy-going, open, democratic, amateurish, cozy society of current digital art for the snobby, exclusive, cutthroat world of corporate-scale galleries? That’s the problem.

## References

1. For a more extensive discussion of this question see Faure Walker, J. 2006, *Painting the Digital River: How an Artist Learned to Love the Computer*, Prentice Hall, Upper Saddle River, New Jersey.
2. From Ippolito, J. ‘Mapping Art’s Escape from the Traps of Technology’ *Electronic Art and Animation Catalogue*, Art Essays, Siggraph 2005, p. 9.





# Computer Animation Festival



CHAIR  
**Terrence Masson**  
Digital Fauxtography Inc.





# Table of Contents

176	Committee & Jury	212	Gnap Gnap	253	"Open Season": Separating the Trees From the Forest
177	Introduction	213	Good is Good	254	PetShop
178	Acknowledgements	214	Growth by Aggregation	255	Planet One Barbeque
<b>Electronic &amp; Animation Theater</b>					
180	3D Illusion In Motion	215	Growth by Aggregation 2 <i>(the Utah variation)</i>	257	Quest for the Mystic Moogoo Fruit!
181	458nm <i>Special Jury Honors</i>	216	Guinness "noitulovE"	258	Race Cornetto Aphrodiziac
182	A Great Big Robot From Outer Space Ate My Homework	217	Harry Potter and the Goblet of Fire	259	Racing Beats
183	Aal im Schädel	218	Hitchhiker's Guide to The Galaxy	260	Rama
184	The Aeronaut	220	ILM 2006	261	Real Birds Don't Barf
185	At The End Of The String	223	In Search of the Puppeteer	262	Reflect
186	Beloved	224	The Inner Life of the Cell	263	Relighting Human Locomotion
187	Box	225	Insanely Twisted Shadow Puppets - 12 Interstitials	264	Rexona "Go Wild"
188	Brush	226	Into Pieces	265	Robin Hood Flour - Giving
189	Bubble Girl	227	Johnnie Walker "Paintings"	266	Robin Hood Flour - Memories
190	The Building	229	K liquid	267	Sciatica
191	calidri	230	King Kong	268	Scope
192	CAPs	233	King Kong: "In a New York Minute"	269	Sharing Bears
193	Carlitopolis	234	Kuhfo	270	Snakes
194	Color Dream No. 246	235	Kungfu Gecko	271	Solomon Grundy
195	Dairy Crest "Cityside"	236	The MagicBox	272	Suba
196	Delivery	237	Memorial	273	Theros
197	Discord: metal and meat	238	Monster Farm 5 Circus Caravan	274	Toohy's "War of the Appliances"
198	Doll Face	239	Monster House: There Goes the Neighborhood	275	ToyArtist:papa&baby
199	Do Robots Dream of Bunnies?	240	Monster Samurai	276	Toyota "Meteor"
200	Everyone's Hero	241	Moongirl	277	Tread Softly
201	Fertilizer Soup	242	Motorola "Peb!"	278	Treibgut
202	Final Fantasy VII Advent Children	243	Multi-Layered Cloth Simulation	279	Vodafone "Mayfly"
203	Flight Patterns	244	Multi-Touch Interaction Research	280	VW Golf GTI - Singing In The Rain
204	Flow	245	Musashino Plateau	281	Walking With Monsters
205	Fluid Animation with Dynamic Meshes	246	My Date From Hell	282	Warhammer: Mark of Chaos Intro Cinematic
206	The Fly	247	Noggin	283	Wojna
207	Fog (Niebla)	248	Northwest Airlines Transformations		
208	Foster's Australia "Big Ad"	249	Oh Hisse		
209	Future Sky	250	One Man Band		
210	Gatorade "Shattered"	251	One Rat Short <i>Best of Show</i>		
211	Gez "The Black Sheep"	252	Open Book		



# Committee & Jury

## **SIGGRAPH 2006**

### **Computer Animation Festival Chair**

#### **Terrence Masson**

*Digital Fauxtography Inc.*

### **Computer Animation Festival Committee**

#### **Dana Boadway**

*Assistant Producer*

#### **Ryan Kuba**

*Production Lead*

*Technicolor Creative Services*

#### **Brian Reid**

*Post Lead*

*Technicolor Creative Services*

#### **Klaus Steden**

*Technology Lead*

*Technicolor Creative Services*

#### **Samuel Lord Black**

*Database Coordinator*

*Autodesk, Inc.*

### **Computer Animation Festival Jury**

#### **Larry Cuba**

*Iota Center*

#### **Thomas Haegele**

*Filmakademie Baden-Württemberg*

#### **Jodie Jenkinson**

*University of Toronto*

#### **Ed Kramer**

*Industrial Light & Magic*

#### **Dan Krech**

*DKP Studios*

#### **Bill Polson**

*Pixar Animation Studios*

#### **Glenn Robbins**

*Newtonic*

#### **Moto Sakakibara**

*Sprite Animation Studios*

### **Computer Animation Festival Jury Alternates**

#### **Bonnie Mitchell**

*SIGGRAPH 2006 Art Gallery Chair*

*Bowling Green State University*

#### **Paul Debevec**

*SIGGRAPH 2007 Computer*

*Animation Festival Chair*

*University of Southern California*

*Centers for Creative Technologies*

#### **Invited Guest**

*Junichi Yanagihara*



# SIGGRAPH 2006

## Computer Animation Festival

### What?

The Computer Animation Festival content you find before you is the result of almost two years of planning and preparation. Beginning with the selection of the jury, driven by aggressive worldwide outreach, and executed with state-of-the-art technology, the Electronic Theater and Animation Theaters for 2006 offer a unique collection of unparalleled excellence.

### Who?

Dozens of people from all around the globe volunteered thousands of hours of personal time to help bring together this inspiring group of animation, stunning visuals, and compelling story telling.

### Where?

2006 was a record-setting year in many ways. The Computer Animation Festival received 726 submissions from 40 different countries. The jury convened for the first time outside the United States, in sunny Toronto.

### Why?

The simple mandate for 2006 was to push beyond the limits of past expectations. In ways small and large, this was accomplished without compromise. Ultimately the humble goal was to simply make this the best Computer Animation Festival ever.

This catalog of imagery and credits illustrates these collected works in order that we might share them with others and rediscover them ourselves many years from now. We hope the SIGGRAPH 2006 Computer Animation Festival will leave an indelible impression upon you all, far beyond the close of the conference.

### Terrence Masson

*SIGGRAPH 2006 Computer Animation Festival Chair*  
*Digital Fauxtography Inc.*



# Acknowledgements

**Eric Potma**

*Technical Assistant*

**Dana Boadway**

*Title Design and Animation*

**Daniel Frank**

*Media Trailer Editor*

**Jury Volunteer Lead**

**Crista Mason**

**Jury Volunteers**

**Angel Alladina**

**Calin Cassian**

**Qing Huan**

**Kari Francis**

**Frances Yeung**

**Diana Dai**

**Sarah Kim**

**Emilie McMahon**

**Willa Bradshaw**

**Engineering**

**Brian O'Reilly**

**Graham Bignell**

**Tom Rathborne**

**Iain McBride**

**Autodesk, Inc.**

**Brian Peterson**

**Rene Gagnon**

**Heather McDiarmid**

**BlueArc Corporation**

**John Ryan**

**Ron Totah**

**Louis Gray**

**Extreme Networks**

**Steve Flowers**

**Elias Mouloupoulos**

**Interconnections Inc.**

**Wiggert Van Hardeveld**

**Mark, Duck & A.J.**

**KVK Electric**

**Ray & Donny**

**Maximum Throughput**

**Ioanna Vriniotis**

**Oksana Birioukova**

**Ordigraphe Inc.**

**William Beaudin**

**Ubuntu Linux**

**The Xine Project**

**Jury Catering**

**Zain Caplin**

*4th Floor Café*

**Jury Projectionists**

**Kent Thomson**

**Ben Swarbrick**

**Audio**

**Phil Seel**

**Julian Daboll**

**Print Design**

**Kevin Chandoo**

**Breck Campbell**

**Jury Workstations**

**Provided by**

**INTEL**

**Steven D. Williams**

**Steven David Williams**

**Steve Pitzel**

**Jury Facilities and Post**

**Production Provided by**

**Technicolor Creative Services**

**SXRD 4K Projectors**

**and HDCAM SR Playback**

**Provided by**

**Sony Electronics Inc.**

**John Kaloukian**

**Gary Mandle**

**André Floyd**

**Sander Phipps**

**Kevin Handerson**

**Mark Bonifacio**

**Vinh Vo**

**Vinny Froio**

**Al Barton**

**Don Levy**

**Carlye Archibeque**

**Extra Very Special Thanks****Carlye Archibeque**

*Senior Coordinator*

*Marketing and Communications*

*Sony Pictures Imageworks*

**Robert Hoffman**

*Senior Vice President of Marketing*

*Thompson Worldwide*

**Don Levy**

*Senior Vice President*

*Marketing and Communications*

*Sony Pictures Digital*

**Tom Sinnott**

*Visual Effects Operations Director*

*Technicolor Creative Services*

**To John C. Finnegan for his**

**leadership**

**To the entire 2006 SIGGRAPH**

**Committee for their inspiration**





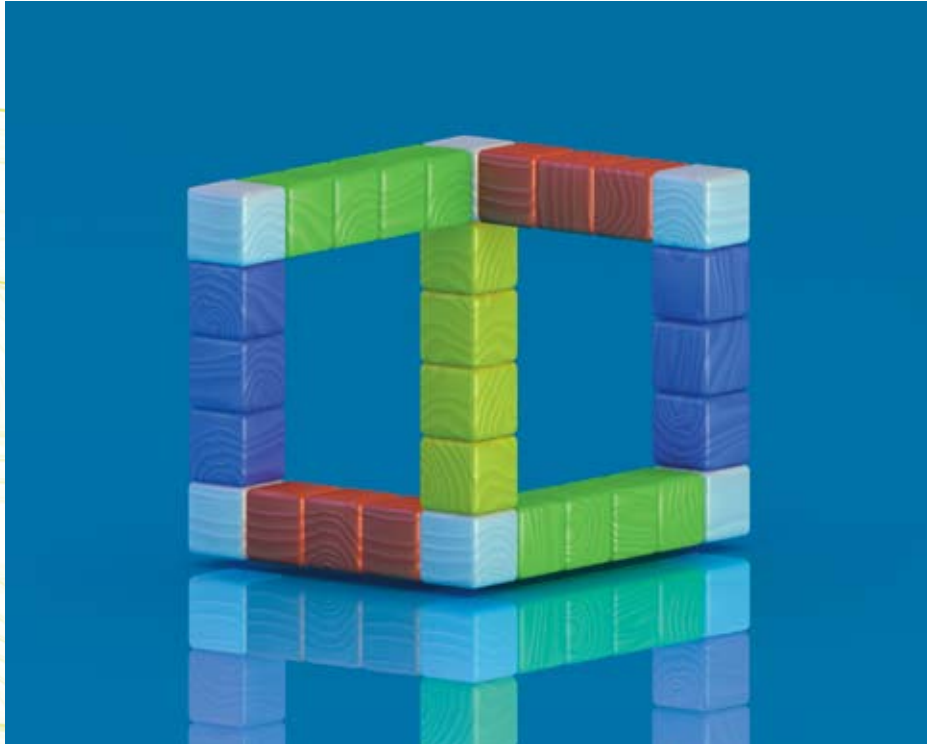
# Electronic and Animation Theaters

**Yee Siong Leow**  
SIGGRAPH Singapore  
38 Jalan Rebana  
Singapore 577005

[ysleow38@singnet.com.sg](mailto:ysleow38@singnet.com.sg)

# 3D Illusion In Motion

ANIMATION THEATER



**Yee Siong Leow**

*Music*

**Michael Spicer**

# 458nm

ELECTRONIC THEATER

## CONTACT

**Institute of Animation, Visual Effects  
and Digital Postproduction**  
Filmakademie Baden-Württemberg  
Mathildenstrasse 20  
71638 Ludwigsburg, Germany

animationsinstitut@filmakademie.de  
www.animationsinstitut.de



*Idea, Direction, Implementation,  
Design, Models, Animation, Set Up,  
Texturing, Compositing, Finishing*

**Jan Bitzer  
Ilija Brunck  
Tom Weber**

*Composers, Sound*

**Mic Irmer  
Roman Jungblut  
Alex Klein**

*Producer*

**Sinje Gebauer**

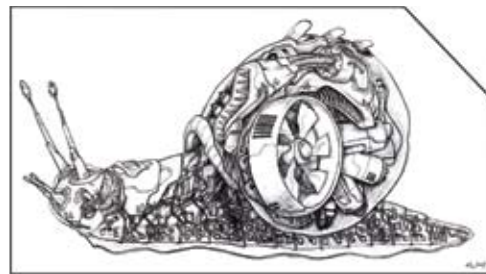
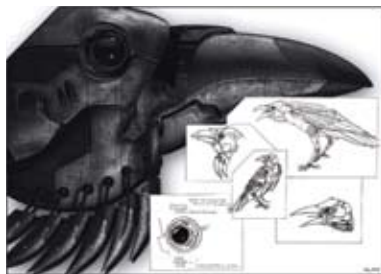
*Additional Texturing & Compositing*  
**Heiko Schneck**

*Titel Design*  
**Nina Juric**

*Translation*  
**Lisa Flanakin  
Tom Harris**

*Production Company*  
**Filmakademie Baden-Württemberg**

## PRE-PRODUCTION ARTWORK



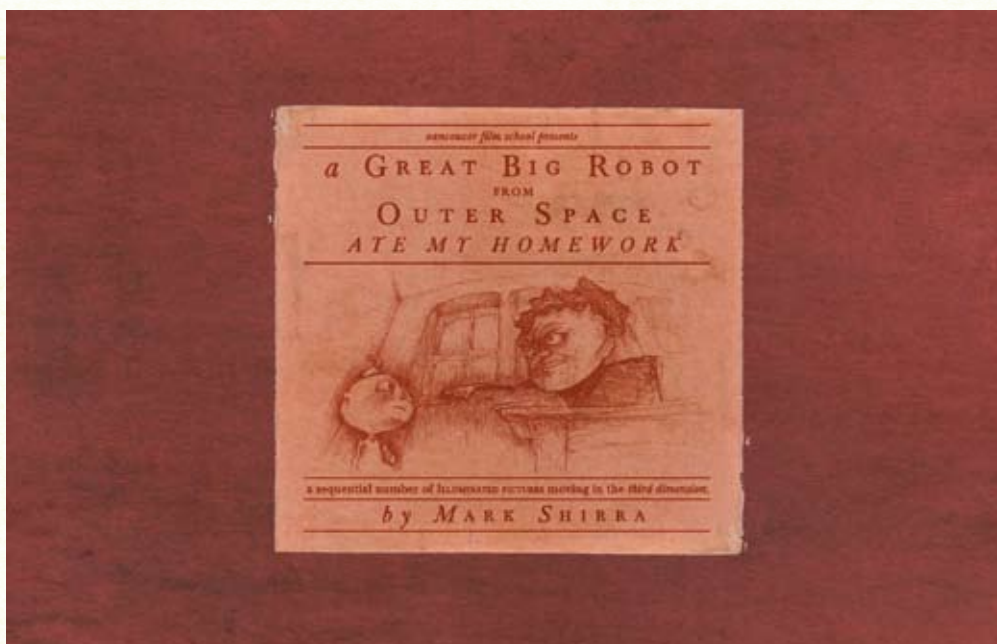


**Susan Postma**  
 Vancouver Film School  
 200-198 West Hastings Street  
 Vancouver, British Columbia V6B 1H2  
 Canada

susanp@vfs.com

# A Great Big Robot From Outer Space Ate My Homework

ELECTRONIC THEATER



*Directed by*  
**Mark Shirra**

*Story and Visual Design*  
**Mark Shirra**

*Animaton, Modelling,  
 Texturing, Lighting*  
**Mark Shirra**

*Cinematography*  
**Mark Shirra**  
**Jericca Cleland-Hura**

*Editing*  
**Mark Shirra**

*Sound Design*  
**Asle Hundvin**

*Voices of Miss Spleen  
 and Mr. Bertie Lated*  
**Mark Shirra**

*Producer*  
**Larry Bafia**

*Project Management*  
**Barbara Dawson**

*Mentors*  
**Larry Bafia**  
**Jericca Cleland-Hura**  
**Jonathan Moyes**  
**Mike Haslam**  
**Sarah Hill**  
**Mark Benard**  
**Casey Kwan**  
**Barbara Dawson**

*Thanks to Instruction from*  
**Jay Senetchko**  
**David Whitmey**  
**Mike West**  
**Moose Pagan**  
**Glenn Van Ooyen**  
**Paul Dos Santos**  
**Steve McLeod**  
**Charlie Grant**  
**Matthew Massier**  
**James Roberts**  
**Jesse Irvin**  
**Dan Hughes**  
**Magic Eslami**  
**Keith Blackmore**  
**Chad Van Der Keere**

*Special Thanks to*  
**Jericca Cleland - Hura**  
**Larry Bafia**  
**Asle Hundvin**  
**Casey Kwan**

*Editing Supervisor*  
**Lisa G. Nielsen**

*Sound Engineering*  
**Brett Anthony and**  
**Andrew Kalmbach**

*3D Administration*  
**Larry Bafia**  
**Susan Postma**  
**Hiroko Horie**



**Institute of Animation, Visual Effects  
and Digital Postproduction**  
Filmakademie Baden-Württemberg  
Mathildenstrasse 20  
71638 Ludwigsburg, Germany

animationsinstitut@filmakademie.de  
www.animationsinstitut.de

# Aal im Schädel

ANIMATION THEATER



## Cast

**The Traveller:** Michael Tregor  
**The War:** Udo Schenk  
**The Fish:** Andreas Fröhlich  
**The Ferryman:** Helmut Rühl

## Director

**Martin Rahmlow**

## Produtor

**Anne Hoever**

## Script

**Dominik Steffan**

## Montage

**Simon Blasi**

## Music

**Jens Grötzschel**

*Sound Editor & Re-recording Mix*  
**Steffen Berlipp**

## Animation

**Martin Rahmlow**  
**Onni Pohl**  
**Waldemar Fast**  
**Volker Heisterberg**

## Technical Directors

**Volker Heisterberg**  
**Daniel Stern**  
**Andreas Rohr**

## Rendering

**Martin Rahmlow**  
**Daniel Stern**  
**Waldemar Fast**

## Advisor

**Phillip Sichler**

## Compositing

**Elmar Weinhold**  
**Dirk Reiermann**

## Modeling & Texturing

**Martin Rahmlow**  
**Klaas Janneck**  
**Albert Radl**  
**Sylwia Kubus**  
**Waldemar Fast**  
**Rüdiger Kaltenhäuser**  
**Johannes Kümmel**  
**Claudius Urban**

## Character Design

**Martin Rahmlow**  
**Jakob Schuh**

## Design-Beratung

**Jakob Schuh**  
**Gunter Grossholz**

## Matte Painting

**Albert Radl**

## Titles

**Ben Braun**

## Production Company

**Filmakademie Baden-  
Württemberg, Institute  
of Animation, Visual Effects  
and Digital Postproduction**

## PRE-PRODUCTION ARTWORK

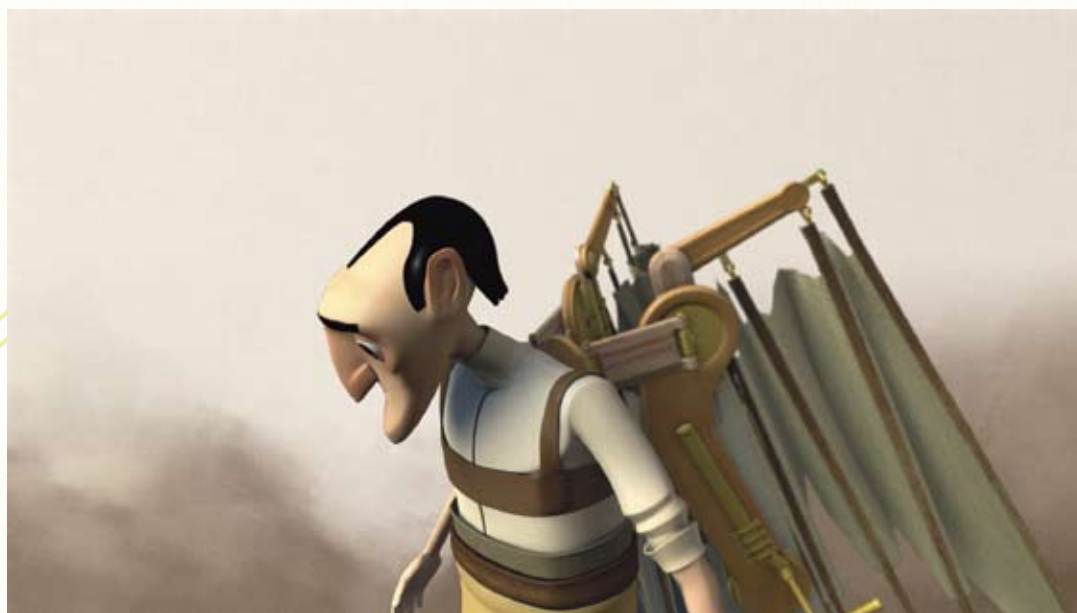


**Nicholas Lombardo**  
Ringling School of Art and Design  
North Tamiami Trail  
Sarasota, Florida 34234-5895 USA

nlombard@ringling.edu

# The Aeronaut

ANIMATION THEATER



*Animation*  
**Nicholas Lombardo**

*Music*  
**Todd Lombardo**

*Faculty Advisor*  
**Edward Gavin**

*Special Thanks*  
**Mom and Dad**  
**Edward Gavin**  
**Jamie DeRuyter**  
**Kris Vale**

*Hardware*  
**HP Workstations**

*Software*  
**Maya 7, RenderMan, Shake,**  
**BodyPaint3D, Syflex, Photoshop,**  
**Premiere, Tsunami**

**Christine Perrin**  
 Gobelins L'ecole de L'image  
 73 boulevard Saint Marcel  
 75013 Paris, France

cperrin@gobelins.fr

# At The End Of The String

ANIMATION THEATER



*Director*  
**Amandine Pecharman**

## PRE-PRODUCTION ARTWORK





**Anargyros Sarafopoulos**  
NCCA  
Bournemouth University, Talbot Campus  
Fern Barrow  
Bournemouth BH12 5BB United Kingdom

asarafo@bournemouth.ac.uk

# Beloved

ANIMATION THEATER



*Director*  
**Alex Wilkie**

*Animation*  
**Alex Wilkie**

*In-house Software*  
**Alex Wilkie**

*Producer*  
**Bournemouth University NCCA**

*Music*  
"All Is Full Of Love" by Bjork,  
remixed by Funkstorung

*Hardware and Software*  
In-house software, Maya, Shake,  
Linux, Dell Workstations.



# Box

ANIMATION THEATER

**Samantha Ferguson**  
NAKD  
171 East Liberty Street, Suite 267  
Toronto, Ontario M6K 3P6 Canada

samf@theebelinggroup.com  
www.nakd.tv



*Production Company*  
**The Ebeling Group**

*Executive Producer*  
**Mick Ebeling**

*Producer*  
**Sue Lee**

*Director*  
**NAKD**

*Creative Director*  
**Stephen Crowhurst**

*Designer/Animator*  
**Chris Bahry**

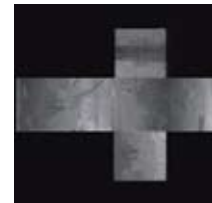
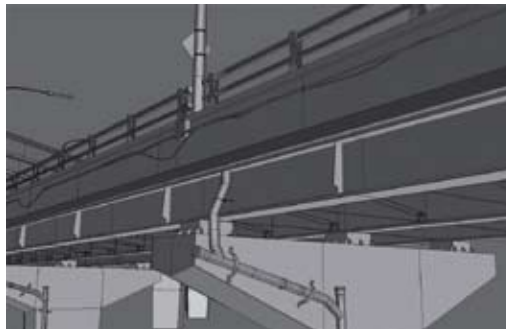
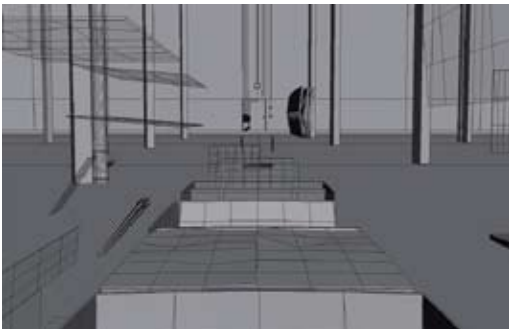
*Animator*  
**Alexandre Torres Ramos**

*Production Coordinator*  
**Samantha Ferguson**

*Music Production*  
**Cypher Audio Development**

*Composer/Arranger*  
**John Black**

## PRE-PRODUCTION ARTWORK



# Brush

ELECTRONIC THEATER

**Victoria Caution**  
 Bournemouth University  
 BMS  
 Talbot Campus  
 Fern Barrow, Poole  
 Dorset BH12 5BB United Kingdom

[vcaution@bournemouth.ac.uk](mailto:vcaution@bournemouth.ac.uk)

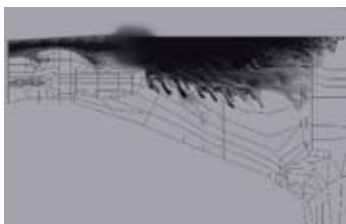


Lei Chen was responsible  
 for all elements of his film.

*Faculty Supervisors for This Masters  
 in 3D Computer Animation Project*

**Georg Finch**  
**Steve Harper**  
**Victoria Caution**  
**Peter Hardie**  
**Stephen Bell**

## PRE-PRODUCTION ARTWORK



# Bubble Girl

ELECTRONIC THEATER

**Jennifer Treuting**  
 PSYOP, Inc.  
 124 Rivington Street  
 New York, New York 11225 USA

jennifer@psyop.tv



*Client*  
**Aero**

*Production Company*  
**Psyop @ Passion Pictures**

*Directors*  
**Marie Hyon**  
**Marco Spier**

*Flame Artist*  
**Eben Mears**

*Live Action DP*  
**Sam Levy**

*Senior Producer*  
**Angela Bowen**

*Live Action Producer*  
**Paul Middlemiss**

*Executive Producers*  
**Justin Booth-Clibborn**  
**Cara Speller**

*Junior Producers*  
**Mariya Shikher**  
**Belinda Blacklock**

*Technical Director*  
**Marco Vukovic**

*Animators*  
**Laurent Barthelemy**  
**Domel Libid**  
**Kevin Estey**  
**Vadim Turchin**  
**Gerald Ding**

*Tracking*  
**Joerg Liebold**

*Particles Animator*  
**Eric Lampi**

*Junior Flame Artist*  
**Jaime Aguirre**

*Live-Action Editor*  
**Patrick Burns**  
**Jr. @ Wild Child**

*Agency*  
**Lowe London**

*Copywriter*  
**Tom Hudson**

*Creative Director*  
**Lee Goulding**

*Producer*  
**Marissa Jennings**

*Account Director*  
**David Clyde**

*Business Director*  
**James Graham**

## PRE-PRODUCTION ARTWORK



# The Building

ELECTRONIC THEATER



www.le-building.com - copyright Gobelins/CCIP 2005

*Directors*

Marco Nguyen  
Pierre Perifel  
Xavier Ramonede  
Olivier Staphylas  
Rémi Zaarour

## PRE-PRODUCTION ARTWORK



www.le-building.com - copyright Gobelins/CCIP 2005



www.le-building.com - copyright Gobelins/CCIP 2005



www.le-building.com - copyright Gobelins/CCIP 2005

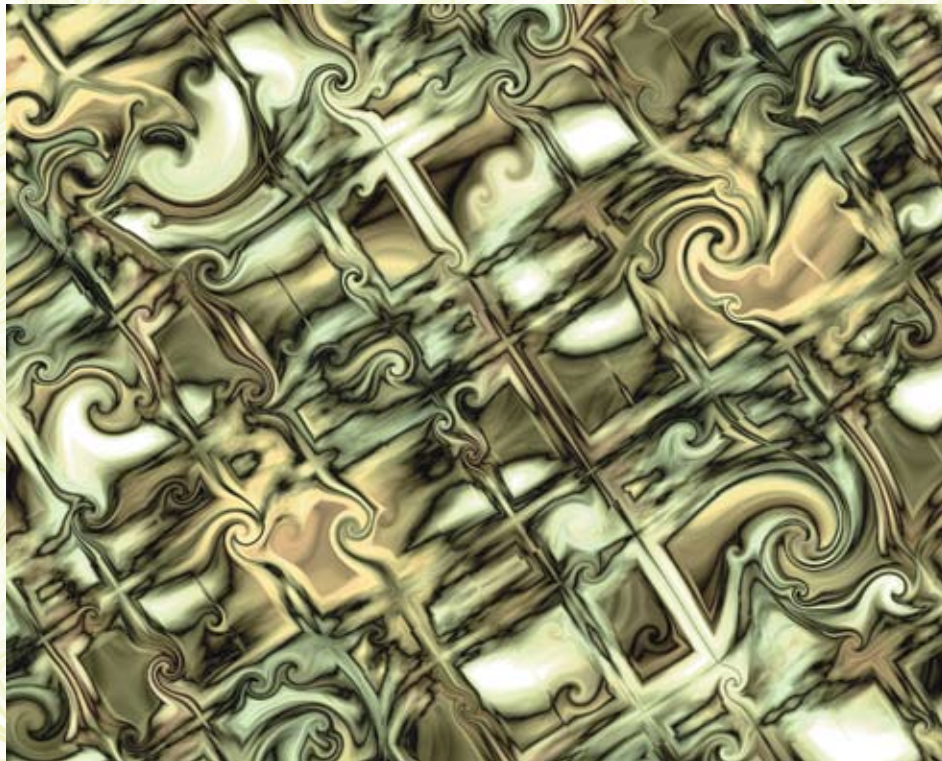


**Brian Evans**  
University of Alabama  
Art Department  
103 Garland Hall  
Box 870270  
Tuscaloosa, Alabama 35487-0270 USA

brian.evans@ua.edu

**calidri**

ANIMATION THEATER



*Music/Graphics*  
**Brian Evans**

**Institute of Animation, Visual Effects  
and Digital Postproduction**  
Filmakademie Baden-Württemberg  
Mathildenstrasse 20  
71638 Ludwigsburg, Germany

animationsinstitut@filmakademie.de  
www.animationsinstitut.de

# CAPs

ANIMATION THEATER



*Director*  
**Moritz Mayerhofer**  
**Jan Locher**

*Particle-FX*  
**Oliver Vogel**

*Music & Sound Design*  
**Steven Schwalbe**

*Producer*  
**Nico Grein**

*Production Company*  
**Filmakademie Baden-Württemberg,**  
**Institute of Animation, Visual**  
**Effects and Digital Postproduction**

## PRE-PRODUCTION ARTWORK





Pierre Hénon  
ENSAD  
31 rue d'Ulm  
75240 Paris, France

aii@ensad.fr  
www.aii.ensad.fr

# Carlitopolis

ELECTRONIC THEATER



*Director*  
**Luis Nieto**

*Cast*  
**Luis Nieto**  
**Carlito**

*Production*  
**École Nationale Supérieure des Arts  
Décoratifs (ENSAD)**

**Michael Theodore**  
University of Colorado  
4380 Ludlow Street  
Boulder, Colorado 80305 USA

michael.theodore@colorado.edu

# Color Dream No. 246

ANIMATION THEATER



*Animation & Music*  
**Michael Theodore**



# Dairy Crest "Cityside"

ELECTRONIC THEATER

**Stephanie Bruning**  
 Framestore CFC  
 9 Noel Street  
 London W1F 8GH United Kingdom

steph.bruning@framestore-cfc.com  
 www.framestore-cfc.com



*Client*  
**Dairy Crest**

*Client Contact*  
**Richard Tolley**

*Agency*  
**Grey Advertising**

*Agency Producer*  
**Zoe Barlow**

*Creatives*  
**Adam Chiappie**  
**Matt Saunby**

*Production Company*  
**Outsider Films**

*Directors*  
**Dom & Nic**

*Production Company Producer*  
**John Madsen**

*Supervising Technical Director*  
**Jake Mengers**

*VFX Supervisor*  
**Mike McGee**

*Animation Supervisor*  
**Dale Newton**

*Inferno Artist*  
**Ben Cronin**

*Animators*  
**Nicklas Andersson**  
**Michiel de Kraker**  
**Don Mahmood**  
**David Mellor**  
**Quentin Miles**  
**Dale Newton**  
**Craig Penn**  
**Dean Robinson**

*Technical Directors*  
**Laura Dias**  
**Alex Doyle**  
**Chris Syborn**

*Render Support*  
**Rob Richardson**

*Colourist*  
**Steffan Perry**

*Post Producer*  
**Rebecca Barbour**

**Till Nowak**  
55118 Mainz, Germany

till.nowak@framebox.de  
www.framebox.de

# Delivery

ANIMATION THEATER



*Author, Director, Producer*  
**Till Nowak**

*Music*  
**Andreas & Matthias Hornschuh**

*Sound*  
**Holger Jung**  
**Nils Keber**  
**Tilo Busch**  
**Till Nowak**

*Motion Capturing*  
**Frank Sennholz**  
**Fedor Binka**

## PRE-PRODUCTION ARTWORK



**Stephan Larson**  
Northern Michigan University  
P.O. Box 7107  
Marquette, Michigan 49855 USA

stlarson@nmu.edu  
<http://art.nmu.edu:16080/larson/diversions/>

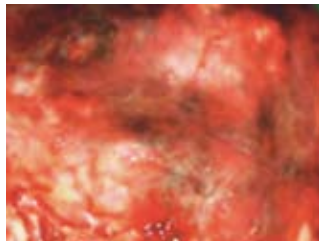
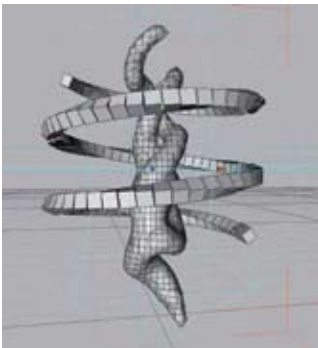
# Discord: metal and meat

ELECTRONIC THEATER



*Direction, Animation,  
Audio, Programming*  
**Stephan Larson**

## PRE-PRODUCTION ARTWORK





**Andrew Huang**  
 29135 Indian Valley Road  
 Rancho Palos Verdes, California 90275  
 USA

andrewhu@usc.edu  
[www.betweenframes.com](http://www.betweenframes.com)

# Doll Face

ELECTRONIC THEATER



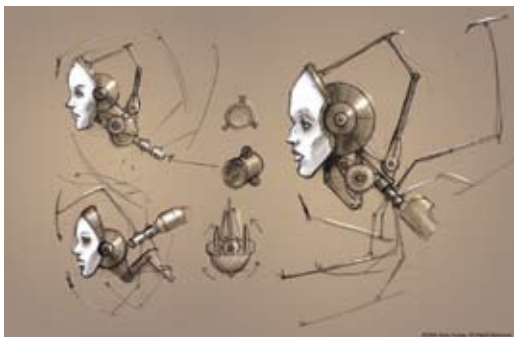
*Creator*  
**Andrew Huang**

*Doll Face*  
**Christina Frenzel**

*Sound and Original Music*  
**Andrew Huang**

*Filmed at Palos Verdes, the NET  
 Community Computer Technology  
 Center*

## PRE-PRODUCTION ARTWORK



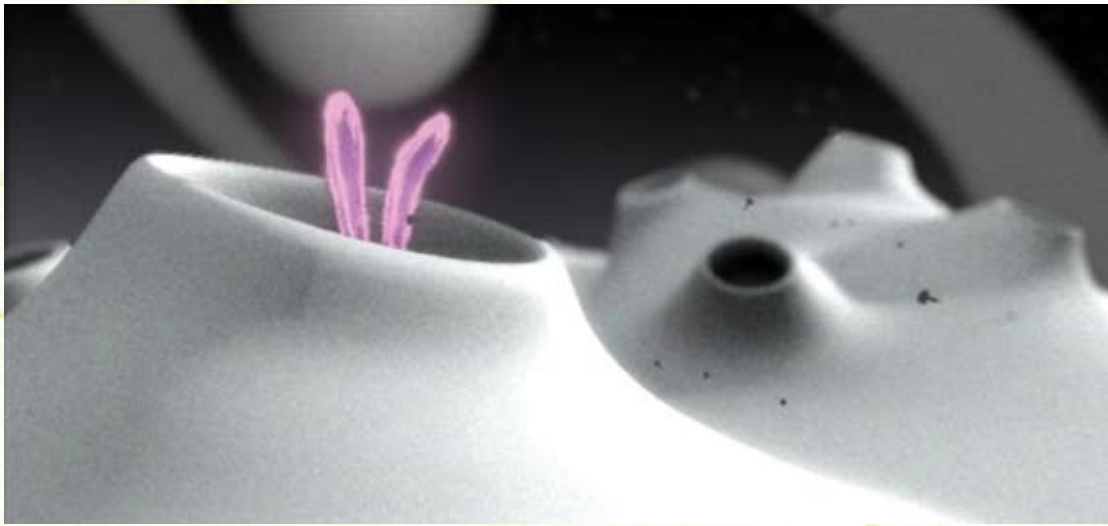


**Ed Ulbrich**  
Digital Domain Inc.  
300 Rose Avenue  
Venice, California 90291 USA

eulbrich@d2.com  
www.digitaldomain.com

# Do Robots Dream of Bunnies?

ANIMATION THEATER



*Directed by*  
**Piotr Karwas**

*Created by*  
**Piotr Karwas**  
**Jason Iversen**  
**Darren Hendler**

*Sound by*  
**Russ Glasgow**

# Everyone's Hero

ELECTRONIC THEATER

**Frank Gladstone**  
 IDT Entertainment  
 2950 North Hollywood Way  
 Burbank, California 91505 USA

frank.gladstone@idte.net



*Directed by*  
**Christopher Reeve**

*Directed by*  
**Daniel St. Pierre**  
**Colin Brady**

*Produced by*  
**Ron Tippe**  
**Igor Khait**

*Screenplay by*  
**Jeff Hand**  
**Rob Kurtz**

*Editor*  
**John Bryant**

*Directors of Photography*  
**Jan Carlee**  
**Andy Wang**

*Art Director*  
**Kevin Adams**

*Character Design*  
**Kristen Lester**

*Supervising Animators*  
**Stephen Barnes**  
**Mike Chaffe**  
**Morgan Ginsberg**  
**Peter Lepeniotis**

*Lead CG Supervisor*  
**Jeff Bell**

*Compositing Supervisor*  
**Alan Kennedy**

## PRE-PRODUCTION ARTWORK



**Christine Perrin**  
 Gobelins L'ecole de L'image  
 73 boulevard Saint Marcel  
 75013 Paris, France

cperrin@gobelins.fr

# Fertilizer Soup

ANIMATION THEATER



Director  
 Sylvain Marc

## PRE-PRODUCTION ARTWORK





**Makiko Noda**  
Square Enix Co., Ltd.  
Shinjuku Bunka Quint Bld. 3-22-7 Yoyogi  
Tokyo 151-8544 Japan

mnoda@square-enix.co.jp

# Final Fantasy VII Advent Children

ANIMATION THEATER



*Character Design*  
**Tetsuya Nomura**

*Director*  
**Tetsuya Nomura**

*Co-Director*  
**Takeshi Nozue**

*Producers*  
**Yoshinori Kitase**  
**Shinji Hashimoto**

*Scenario*  
**Kazushige Nojima**



## CONTACT

**Aaron Koblin**  
UCLA Design | Media Arts  
11000 Kinross  
Suite 245  
Los Angeles, California 90095-1456 USA

akoblin@ucla.edu  
www.AaronKoblin.com

# Flight Patterns

ANIMATION THEATER



*Director/Animator*  
**Aaron Koblin**

*Logo/Editing*  
**Takashi Kawashima**

*Music*  
**Yasuhiro Tsuchiya**

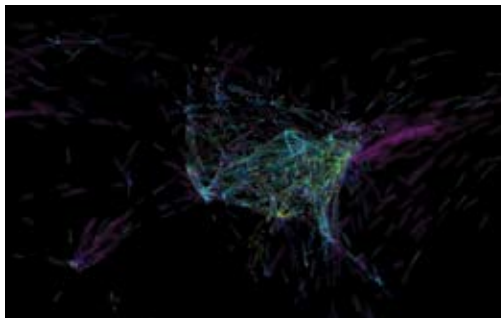
*Sound*  
**Daniel Massey**

*Special Thanks*  
**Celestial Mechanics**  
**UCLA Design | Media Arts**  
**Scott Hessels**  
**Gabriel Dunne**

## PRE-PRODUCTION ARTWORK



3D Blob Proximity Render



Colored by aircraft type.

# Flow

ELECTRONIC THEATER

## CONTACT

**Danielle Plantec**  
Scanline Production  
Bavariafilmplatz 7  
82031 Geiselgasteig, Germany



*VFX Supervisor*  
**Head of Research & Development**  
**Stephan Trojansky**

*Flowline Research & Development*  
**Thomas Ganshorn**  
**Oliver Pilarski**  
**Sebastian Thiel**  
**Timo Schumacher**

*Additional R&D*  
**Gabriel Dedic**  
**Kolja Kähler**  
**Dirk Schulz**  
**Katja Daubert**

*Flowline Show Supervisor*  
**Danielle Plantec**

*Stormflood*  
**Alessandro Cioffi**  
**Moritz Eiche**  
**Ivo Klaus**  
**Michael Ralla**  
**Johannes Saam**

*Megalodon*  
**Sebastian Kuchmeister**  
**Shibu Menon**  
**Felix Messerschmitt**  
**Andreas Nehls**  
**Christoph Sprenger**  
**Manfred Sandner**  
**Dietrich Stoll**  
**Zoltán von Gáti**

*Production*  
**Stefanie Stalf**  
**Ismat Zaidi**  
**Thomas Zauner**  
**Nina Knott**  
**Helene Marinoff**

*Technical Support*  
**Michael Scheffler**  
**Björn Wortmann**

© 2005 Scanline Production

## PRE-PRODUCTION ARTWORK



R&D GI rendering of flowline street water.

© 2005 Scanline Production



Final rendering from stormflood. 100% digitally generated water.

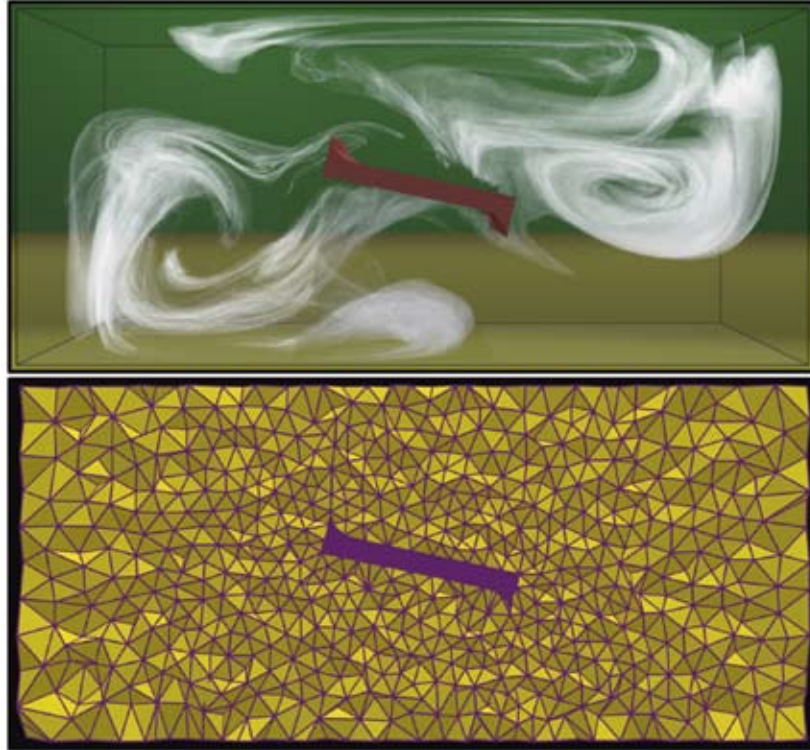
© 2005 Scanline Production, RTL, Teamworx

**Bryan Klingner**  
University of California  
Berkeley  
537 Soda Hall  
Berkeley, California 94720-1776 USA

klingsner@cs.berkeley.edu

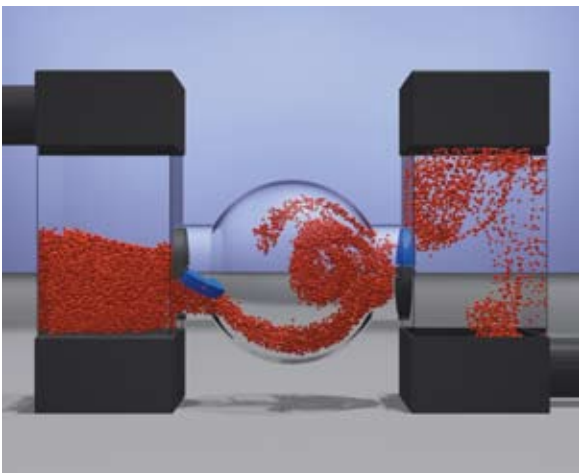
# Fluid Animation with Dynamic Meshes

ANIMATION THEATER



Bryan Klingner  
Bryan Feldman  
Nuttapong Chentanez  
James O'Brien

## PRE-PRODUCTION ARTWORK





**PJ Park (HanJin Song)**  
915 Cherokee Avenue  
Nashville, Tennessee 37207

hsong@rsad.edu

# The Fly

ANIMATION THEATER



*Animation*  
**HanJin Song**

*Music*  
**Kimdongryul**

*Faculty Advisor*  
**Edward Gavin**

*Special Thanks*  
**Jim McCampbell**  
**Edward Gavin**  
**Heather Thomson**  
**Jamie DeRuyter**  
**Robert Melville**  
**Deborah Healy**  
**Karen Sullivan**  
**Karissa Miller**  
**Jennifer Bradley**

*Hardware*  
**HP workstations**

*Software*  
**Maya 7, RenderMan, Shake,**  
**Photoshop, Premiere, Tsunami**



**Santi Fort**  
 Universitat Pompeu Fabra  
 Ocatà, 1  
 08003 Barcelona, Spain

santi.fort@upf.edu  
 www.iaa.upf.es/posgraus

# Fog (Niebla)

ANIMATION THEATER



*Director*  
**Emilio Ramos**  
 producciones.atotonilco@gmail.com

*Animation/Design/Illustration*  
**Emilio Ramos**  
**Maria del Mar Hernández**  
**Jordi Codina**

*Music*  
**Leo Heiblum**

*Script*  
**Maria del Mar Hernández**  
**Jordi Codina**  
**Emilio Ramos**

*Old Man Voice*  
**Josep Codina**

*Render*  
**Irakli Kublashvili**

*Still Photo*  
**Rocío Ramos**  
**Santiago Garcés**

*Credits Design*  
**Diana López Font**

*Faculty Members*  
**Marcelo Dematei**  
**Carlos Smith**  
**Dani Fornaguera**

*Course Directors*  
**Santi Fort**  
**Josep Blat**

*Produced in the Animation Course,  
 Universitat Pompeu Fabra, Barcelona*

*Music produced in México*

## PRE-PRODUCTION ARTWORK



# Foster's Australia "Big Ad"

ELECTRONIC THEATER

**Anna Hildebrandt**  
 Animal Logic  
 Building 54 / FSA #19  
 Fox Studios Australia  
 38 Driver Avenue  
 Moore Park  
 Sydney 2021 Australia

annac@al.com.au  
 www.animallogic.com



*Agency*  
**George Patterson Partners Y & R**  
 (Melbourne)

*Creative Director*  
**James McGrath**

*Creative Team*  
**Grant Rutherford**  
**Ant Keogh**

*Producer*  
**Pip Heming**

*Group Communications Director*  
**Paul McMillan**

*Production Company*  
**Plaza Films**

*Director*  
**Paul Middleditch**

*Executive Producer*  
**Peter Masterton**

*Animation & VFX*  
**Animal Logic**

*VFX Executive Producer*  
**Jacqui Newman**

*VFX Producer*  
**Caroline Renshaw**

*VFX Supervisor*  
**Andrew Jackson**

*Shoot Supervisors*  
**Andrew Jackson**  
**Angus Wilson**

*Lead Composer*  
**Angus Wilson**

*Compositors*  
**Andy McKenna**  
**Mark Robinson**

*3D Team Leader*  
**Andrew Jackson**

*CG Team*  
**Sotiris Bakosis**  
**Daniel Marum**  
**Brett Margules**  
**David Hansen**  
**Tom Bardwell**

*Matte Painting Artist*  
**Michael Halford**

*Music*  
**Cezary Skabiszewski,**  
**Allan Eaton Studios**

*Editor*  
**Peter Whitmore,**  
**Winning Post**

## PRE-PRODUCTION ARTWORK



A wireframe example of the model used for all Massive agents.



Previsualization was very important to determine how many Massive agents would be required to build the logo and the shapes.



A screengrab taken from Massive testing the "beer dance."



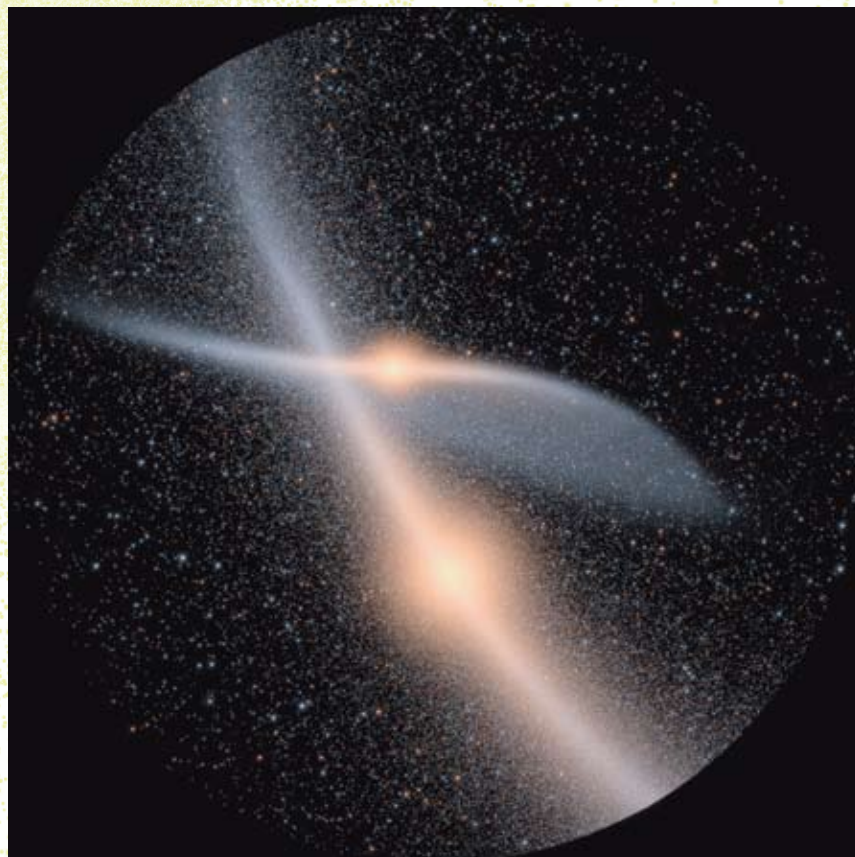
# Future Sky

ANIMATION THEATER

## CONTACT

**John Dubinski**  
Department of Astronomy  
and Astrophysics  
University of Toronto  
60 St. George Street  
Toronto, Ontario M5S 3H8 Canada

dubinski@astro.utoronto.ca  
www.galaxydynamics.org



*Simulation/Animation*  
**John Dubinski**  
Department of Astronomy and Astrophysics  
University of Toronto

*Music*  
**John Kameel Farah**

**Ed Ulbrich**  
 Digital Domain Inc.  
 300 Rose Avenue  
 Venice, California 90291 USA

eulbrich@d2.com  
 www.digitaldomain.com

# Gatorade "Shattered"

ANIMATION THEATER



*Agency*  
**Element79Partners**

*Chief Creative Officer*  
**Dennis Ryan**

*Group Creative Director*  
**Joe Burke**

*Senior Producer*  
**Nicky Furno**

*Art Director*  
**Tom Wilson**

*Copywriter*  
**Dave Boensch**

*Production Company*  
**Smuggler**

*Director*  
**Brian Beletic**

*DP*  
**Emmanuel Lubezki**

*Executive Producer*  
**Brian Carmody**

*Producer*  
**Paul Ure**

*Animation and Visual Effects by*  
**Digital Domain, Inc.**

*Senior Vice President of Production/  
 Executive Producer*  
**Ed Ulbrich**

*Visual Effects Supervisor*  
**Brad Parker**

*VFX Producer*  
**Stephanie Gilgar**

*VFX Coordinator*  
**Susan Long**

*CG Supervisors*  
**Nikos Kalaitzidis**  
**Karl Denham**

*Flame Artists*  
**Jonny Hicks**  
**Anita Razzano**

*Pre-Vis Artist*  
**John Allardice**

*Digital Artists*  
**David Chan**  
**Janelle Croshaw**  
**Dan Fowler**  
**Hammer Chu Wai Ho**  
**Brandon Perlow**  
**John Riggs**  
**David Rindner**  
**Doug Wilkinson**

*Technical Directors*  
**John Cooper**  
**Daniel Maskit**

*Tracking/Integration*  
**Marco Maldonado**

*Roto Artists*  
**Stephen Edwards**  
**Eddie Gutierrez**  
**Dolores Pope**

*Editing by*  
**PS 260**

*Editor*  
**Maury Loeb**

*Sound Design by*  
**Brian Emrich**



# Gez “The Black Sheep”

ANIMATION THEATER

**Jeannine Fohrmann**  
Spans & Partner GmbH  
Mühlenkamp 59  
22303 Hamburg, Germany

jeannine.f@spans.de



*Client*  
**Suedwestdeutscher Rundfunk**

*Agency*  
**Toepfer  
Grenville  
Crone**

*Production Company*  
**Spans & Partner GmbH**

*Service Company*  
**Heller  
Pfennig & Co.**

*3D Animation*  
**VFX**

*Post Production*  
**Spans & Partner GmbH**

*Director/Animation Director*  
**Peter Spans**

*Executive Producer*  
**Martinique Spans**

*Producer*  
**Kathrin Jürgensen**

*CG Supervisor*  
**Martin Chatterjee**

*Character Modeling*  
**Jakob Schulze-Rohr**

*Creature TD*  
**Martin Chatterjee**

*Character Animation Lead*  
**Jakob Schulze-Rohr**

*Character Animation*  
**Markus Geerts**

*Hair & Fur*  
**Markus Geerts**

*Texturing Lead*  
**Kristy Wagenknecht**

*Texturing*  
**Markus Geerts  
Cornelia Prescher**

*R&D Programming*  
**Samy Makki**

*Render Wrangling*  
**Tom Sporer  
Markus Geerts**

*Compositing Lead*  
**Gabriel Reichle**

*Compositing*  
**Markus Reithoffer**

*Tracking / Matchmove*  
**Andreas Schulz  
Tom Sporer  
Markus Geerts  
Kristy Wagenknecht**

*Actor*  
**Sascia Haj  
Patrick Dreikauss  
Hartmut Jonas**

**Christine Perrin**  
 Gobelins L'ecole de L'image  
 73 boulevard Saint Marcel  
 75013 Paris, France

cperrin@gobelins.fr

# Gnap Gnap

ANIMATION THEATER



## Directors

**Olivier Daube**  
**Sonia DesMichelis**  
**Wilfried Pain**  
**Bertrand Piocelle**  
**Jean-Vincent Sales**

## PRE-PRODUCTION ARTWORK



# Good is Good

ANIMATION THEATER

**Jennifer Treuting**  
 PSYOP, Inc  
 124 Rivington Street  
 New York, New York 11225 USA

jennifer@psyop.tv



*Client*  
**Interscope Records**  
 part of A&M Records

*Artist*  
**Sheryl Crow**

*Production, Design, and Animation*  
**PSYOP, Inc.**

*Directors*  
**Kylie Matulick**  
**Todd Mueller**

*Flame Artist*  
**Eben Mears**

*Executive Producers*  
**Justin Booth-Clibborn**  
**Cath Berclaz**

*Producer*  
**Mariya Shikher**

*Live-Action Producer*  
**Paul Middlemiss**

*Lead 3D Artist/Technical Director*  
**Domel Libid**

*3D Artists*  
**Chris Bach**  
**Kevin Estey**  
**Alvin Bae**  
**Pakorn Bupphavesa**  
**Laurent Barthelemy**  
**Todd Akita**  
**Vadim Turchin**  
**Maurice Caicedo**  
**Eric Lampi**  
**Gerald Ding**  
**Hay-yeun Lee**

*Junior Flame Artists*  
**Jaime Aguirre**  
**Joe Vitale**

*Tracking*  
**Joerg Liebold**  
**Chris Hill**  
**Jan Cilliers**

*Designers*  
**Douglas Lee**  
**Daniel Piwowarzik**  
**Babak Radboy**

*2D Artists*  
**Josh Harvey**  
**BeeJin Tan**  
**Mats Aanderson**

*Roto Artists*  
**Chris Halstead**  
**Adam Van Dine**  
**Ella Boliver**  
**Joshua Bush**  
**Chad Nau**  
**Kirstin Hall**  
**Danielle Leiser**  
**Stefania Gallico**

*Storyboard Artist*  
**Benjamin Chan**

*Editorial*  
**Wild Child Editorial**

*Editor*  
**Brett Nicoletti**

*Assistant Editor*  
**Andrew Giles**

## PRE-PRODUCTION ARTWORK



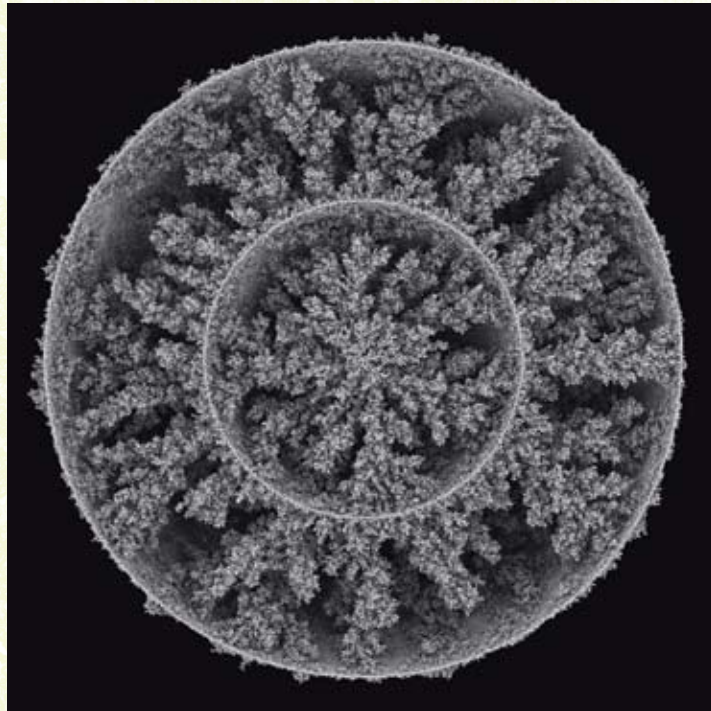


**Andy Lomas**  
Framestore CFC  
9 Noel Steet  
London W1F 8GH United Kingdom

andylomas@yahoo.com  
www.andylomas.com

# Growth by Aggregation

ANIMATION THEATER



*Director*  
**Andy Lomas**

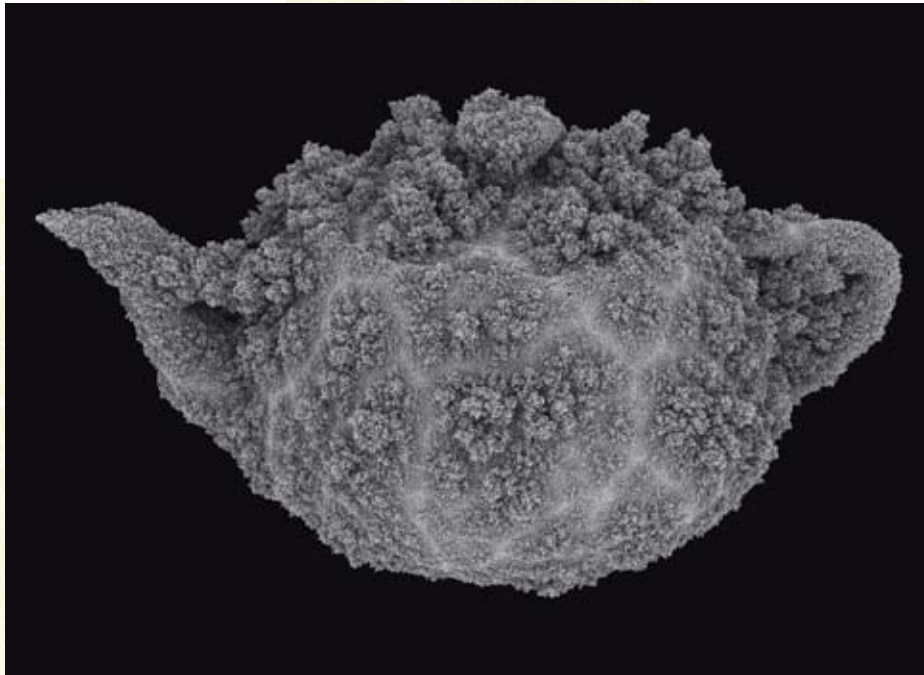


**Andy Lomas**  
Framestore CFC  
9 Noel Steet  
London W1F 8GH United Kingdom

andylomas@yahoo.com  
www.andylomas.com

# Growth by Aggregation 2 (the Utah variation)

ELECTRONIC THEATER



*Director*  
**Andy Lomas**

*Rendering*  
**Framestore CFC**

**Stephanie Bruning**  
 Framestore CFC  
 9 Noel Street  
 London W1F 8GH United Kingdom

steph.bruning@framestore-cfc.com  
 www.framestore-cfc.com

# Guinness “noitulovE”

ELECTRONIC THEATER



*Client*  
**Guinness**

*Agency*  
**AMV BBDO**

*Agency Producer*  
**Yvonne Chalkley**

*Creatives*  
**Ian Heartfield**  
**Matt Doman**

*Production Company*  
**Kleinman Productions**

*Director*  
**Daniel Kleinman**

*Production Company Producer*  
**Johnnie Frankel**

*Editor*  
**Steve Gandolfi**

*VFX Supervisor/Lead Inferno Artist*  
**William Bartlett**

*Inferno Artist*  
**Alex Thomas**

*Additional Inferno Artists*  
**Murray Butler**  
**Jonathan Hairman**

*Junior Inferno Artist*  
**Chris Redding**

*Roto Artists*  
**Nicha Kumkeaw**  
**Daria Ashley**

*CGI Supervisor*  
**Andy Boyd**

*Senior CGI Artist*  
**Dan Seddon**

*CGI Artists*  
**Jamie Isles**  
**David Mellor**  
**James Healy**  
**Laura Dias**  
**Chris Syborn**  
**Alex Doyle**  
**Michele Fabbro**  
**Joe Thornley**

*Lead Animator*  
**Quentin Miles**

*Animators*  
**Nicklas Andersson**  
**Craig Penn**  
**Don Mahmood**

*Junior CGI Artist*  
**Rob Richardson**

*CGI Tracking*  
**Joe Leavson**

*Telecine Colourist*  
**Matthew Turner**

*Post Producer*  
**Scott Griffin**

*Post Production Assistant*  
**Sarah Goodwin**



# Harry Potter and the Goblet of Fire

ANIMATION THEATER

**Stephanie Bruning**  
 Framestore CFC  
 9 Noel Street  
 London W1F 8GH United Kingdom

steph.bruning@framestore-cfc.com  
 www.framestore-cfc.com



## A Warner Brothers Production

*Directed by*  
**Mike Newell**

*Visual Effects Supervisor*  
**Tim Webber**

*CG Supervisor*  
**David Lomax**

*Visual Effects Producer*  
**Sarah Dowland**

*Animation Supervisors*  
**Pablo Grillo**  
**Max Solomon**

*CG Producer*  
**Robin Saxen**

*Visual Effects Coordinators*  
**Lizi Bedford**  
**Caroline Howes**

*Visual Effects Editor*  
**Lars Vinther**

*3D Animators*  
**Rosie Ashforth**  
**Craig Bardsley**  
**Laurent Benhamo**  
**Brendan Body**  
**Federico Cascinelli**  
**Stuart Ellis**  
**James Farrington**  
**Robert Hemmings**  
**Guillaume Herent**  
**Paul Lee**  
**Barth Maunoury**  
**Luca Mazzoleni**  
**Catherine Mullan**  
**Tabitha O'Connell**  
**Craig Penn**  
**Porl Perrott**  
**Matthieu Poirey**  
**Darren Rodriguez**  
**In-Ah Roediger**

*Character Rigging Supervisor*  
**Felix Balbas**

*Character Riggers*  
**Matthew Bell**  
**Wayde Duncan-Smith**

*CG Sequence Supervisors*  
**Rob Allman**  
**Andy Kind**  
**Justin Martin**  
**Andrew Rawling**

*CG Lighting Artists*  
**Christoph Ammann**  
**Paul Beilby**  
**Samy Ben Rabah**  
**Christophe Bernaud**  
**Carl Bianco**  
**Stéphane Deverly**  
**Nick Epstein**  
**Michele Fabbro**  
**Ian Frost**  
**David Gordon**  
**Mark Hodgkins**  
**Julian Hodgson**  
**Matthew Hughes**  
**Theo Jones**  
**Ilyas Kaduji**  
**Chris King**  
**Edmund Kolloen**  
**Ben Lambert**  
**Dan Lavender**  
**Nicola Lavender**  
**Chris Lawrence**  
**Patrick Lowry**  
**Chris Mangnall**  
**Stephen Murphy**  
**Mike O'Neill**  
**Robert O'Neill**  
**Alfred Olivier**  
**Mark Osborne**  
**David Short**  
**Neil Weatherley**  
**Matthias Zeller**

*Matte Painter Supervisor*  
**Jason Horley**

*Texture Artists*  
**Virginie Degorgue**  
**Nathan Hughes**  
**Gavin Lewis**  
**Gurel Mehmet**  
**Rebecca Melander**  
**Elsa Santos**

*Compositing Supervisors*  
**Adrian de Wet**  
**Arieto Echevarria**  
**Christian Manz**  
**Ivan Moran**  
**Pedro Sabrosa**

*Compositors*  
**Ben Aickin**  
**Richard Baker**  
**Giacomo Bargellesi**  
**Sara Bennett**  
**Niki Bern**  
**Rob Duncan**  
**Jonathan Fawkner**  
**Ian Fellows**  
**John Hardwick**  
**Garrett Honn**  
**Matt Kasmir**  
**Patricia Llaguno**  
**Adrian Metzelaar**  
**Ellie Meure**  
**Helen Nesbitt**  
**Travis Porter**  
**Cristina Puente**  
**Sirio Quintavalle**  
**John Sharp**  
**John Slattery**  
**Jan Toensmann**  
**Gavin Toomey**  
**Matthew Twyford**  
**Corrina Wilson**  
**Kate Windibank**  
**Christine Wong**  
**Christian Zeh**

*Rotoscope Artists*  
**David Aulds**  
**Stephen Bennett**  
**Tony Peck**  
**Jeremy Sawyer**

*Matchmover Supervisor*  
**Mark Tudor-Williams**

*Matchmovers*  
**Lianne Forbes**  
**Simon French**  
**Frederic Heymans**  
**Joe Leveson**  
**Melvyn Polayah**

*Assistant Visual Effects Editors*  
**Alex Muth**  
**Tom Partridge**

*Cyberscanning*  
**Sean Varney**  
**Guy Hauldren**

*Technical Support*  
**Rodrigo Bernardo**  
**Daire Byrne**  
**Alex Cumming**  
**Simon Carlile**  
**Ian Comley**  
**Lecia Drysdale**  
**Alex Hessler**  
**Kim Loan Do**  
**Roz Lowrie**  
**Oliver McClusky**  
**Christophe Meslin**  
**Dan Perry**  
**Stefan Putz**  
**David Robinson**  
**Cal Sawyer**  
**Jon Stanley**  
**Johan Van Den Dorpe**  
**Stephen Willey**

**Helen Arnold**  
Cinesite  
Medius House  
2 Sheraton Street  
London W1F 8BH United Kingdom

[helen@cinesite.co.uk](mailto:helen@cinesite.co.uk)  
[www.cinesite.com](http://www.cinesite.com)

# Hitchhiker's Guide to the Galaxy

ANIMATION THEATER



*Production VFX Supervisor*  
**Angus Bickerton**

*VFX Supervisors (Cinesite)*  
**Adam McInnes**  
**Matt Johnson**  
**Sue Rowe**

*CG Supervisor*  
**Jon Neill**

*VFX Producer*  
**Ken Dailey**

*VFX Line Producers*  
**Aimee Dadswell-Davies**  
**Paul Ladd**

*VFX Coordinator*  
**Ben Flatter**

*Executive Producer*  
**Courtney Vanderslice-Law**

*3D Sequence Supervisors*  
**Simon Maddocks**  
**Ivor Middleton**  
**Thrain Shadbolt**

*3D Sequence Leads*  
**Charles Cash**  
**Angela Cole**  
**Michael Grobe**

*3D Modelling*  
**Marko Schobel**

*3D Animation*  
**Dimitri Bakalov**  
**Sally Goldberg**  
**Kevin Modeste**  
**Christoph Schinko**

*3D Lighting*  
**Sebastien Beaulieu**  
**Tyson Cross**  
**Bruno Lesieur**  
**Artemis Oikonomopoulou**  
**Geoff Pedder**  
**Matt Redhead**

*3D TDs*  
**Simon Bunker**  
**Alexis Hall**  
**David Hyde**  
**Fredrik Limsater**  
**Matthew Maude**  
**Alexander Savenko**  
**Holger Voss**

*3D Artists*  
**Laurent Cordier**  
**Ryan Harrington**  
**Ilyas Kaduji**  
**Sam Lucas**  
**George Plakides**

*3D Motion Control Technician*  
**Matt D'Angibau**

*Sequence Supervisors*  
**Warwick Campbell**  
**Stuart Partridge**  
**Andy Robinson**  
**Jan Tönsman**  
**Christian Zeh**  
**Patrick Zentis**

## PRE-PRODUCTION ARTWORK





*Senior Compositors*

**Mark Bakowski**  
**Keith Devlin**  
**Dan Harrod**  
**Richard Little**  
**Ed Plant**  
**Campbell Rose**  
**Carlo Scaduto**  
**Denis Scolan**  
**John Slattery**

*Compositors*

**Jaume Arteman**  
**Richard W. Baker**  
**Chris Elson**  
**Guy Elson**  
**Allan Torp Jensen**  
**Sanju Gupta-Travis**  
**Thomas Loeder**  
**Ben Morgan**  
**Gustaf Nilsson**  
**Sarah Norton**  
**John Peck**  
**Hannah Peirce**  
**Jorg Schulz-Gerchow**  
**Gert Van Dermeersch**

*Inferno Artists*

**Simon Haslett**  
**Michael Illingworth**  
**Steve Murgatroyd**  
**Jim Parsons**

*Head Of Digital Matte Painting*  
**David Early***Digital Matte Painters*  
**Lino Khay**  
**Christoph Unger**  
**Max Dennison***Head Of Tracking*  
**Jon Miller***Tracking Department*  
**Joe Arnold**  
**Manu Garcia**  
**Peter Godden**  
**Marc Stevenson***Rotoscope*

**Petra Struben**  
**Sandro Henriques**

*VFX Editor*

**Christopher Learmonth**

*2K Playback Operator*  
**Lee Chidwick***Colour Grader*  
**Andrew Jeffrey***Projectionist*  
**Jan Meade***Scanning & Recording*  
**Mitch Mitchell**  
**John Benn**  
**Mark Buschbacher**  
**Lorraine Johnson**  
**Mark Sum***Digital I/O*  
**Kathy Wise**  
**Danielle Nadal**  
**Sangita Mistry**  
**Maggie Walby***Production Development*  
**Gill Roberts***Production Manager*

**Dan Pettipher**

*3D Manager*  
**Tiffany Cullum***Production Support*  
**Peter Robertshaw**  
**Christian Perschky**  
**Anna Privett**  
**Iain Irwin-Powell**  
**Dave Richardson**  
**Steve Smith***Previsualisation*  
**Evan Davies**  
**Ruth Ducker***Production Accountant*  
**Kate Griffin**

# ILM 2006

ELECTRONIC THEATER

## CONTACT

**Kate Shaw**  
Industrial Light & Magic  
P.O. Box 29909  
San Francisco, California 94129-0909  
USA

kateshaw@ilm.com



### "POSEIDON" CREW LIST

*Visual Effects Supervisor*  
**Kim Libreri**

*Associate Visual Effects Supervisor*  
**Mohen Leo**

*Visual Effects Producer*  
**Jeff Olson**

*Digital Effects Supervisor*  
**Patrick Conran**

*Visual Effects Art Director*  
**Wilson Tang**

*CG Supervisors*  
**Joakim Arnesson**  
**Lindy De Quattro**  
**Willi Geiger**  
**Philippe Rebours**  
**Henry Preston**  
**Kevin Sprout**

*Lead Digital Artists*  
**Daniel Pearson**  
**Vincent Toscano**

*Compositing Supervisors*  
**Patrick Brennan**  
**Mark Hopkins**

*Lead Matchmove Artist*  
**Colin Benoit**

*Visual Effects Production Supervisor*  
**Peter Nicolai**

*Animators*  
**Christopher Mitchell**  
**Huck Wirtz**  
**John Zdankiewicz**

*CG Modellers*  
**Pamela J. Choy**  
**Rene Garcia**  
**Jack Haye**  
**Kelvin Lau**  
**Scott May**  
**Russell Paul**  
**Larry Tan**  
**Howie Weed**  
**Colie Wertz**

*Texture Artists*  
**Scott Bonnenfant**  
**Catherine Craig**  
**Gus Dizon**  
**Erich Ippen**  
**Dan Slavin**  
**Tony Sommers**

*Digital Artists*  
**Ismail Acar**  
**Kevin Barnhill**  
**Tim Belsher**  
**Jeffrey Benedict**  
**Patrick Bergeron**  
**Aron Bonar**  
**Matt Bouchard**  
**Steve Braggs**  
**Sam Breach**  
**Matt Brumit**  
**Zachary Cole**  
**Brian Connor**  
**Andrew Dickinson**  
**Sam Edwards**  
**Janeen Elliott**  
**Raul Essig**  
**Tim Fortenberry**  
**Ryan Galloway**  
**Jeff Grebe**  
**Branko Grujicic**  
**John Hansen**  
**Jeff Hatchel**  
**Sherry Hitch**  
**Peg Hunter**

**Ryan Jones**  
**Stephen Kennedy**  
**Hilmar Koch**  
**Erik Krumrey**  
**Donna Lanasa**  
**Hayden Landis**  
**Jeroen Lapre**  
**Jessica Laszlo**  
**Toan-Vinh Le**  
**Josh Levine**  
**Melissa Lin**  
**Scott Mease**  
**Philip Metschan**  
**Mark Nettleton**  
**Khatsho Orfali**  
**Tom Proctor**  
**Ricardo Ramos**  
**Anthony Rispoli**  
**Nelson Sepulveda**  
**Paul Sharpe**  
**Ken Sjogren**  
**Nigel Sumner**  
**Doug Sutton**  
**Eric Texier**  
**Lee Uren**  
**David Weitzberg**  
**Scott Younkin**

*Matte Painters*  
**Ben Huber**  
**Brett Nothcutt**  
**Yusei Uesugi**

*Matchmove Artists*  
**Duncan Blackman**  
**Lanny Cermak**  
**Talmage Watson**

*Rotoscope Artists*  
**Justin Graham**  
**Michael Van Eps**

*Visual Effects Editor*  
**Michael Gleason**

*Visual Effects Coordinators*  
**Katherine Farrar**  
**Gordon Wittmann**

*Software Development*  
**Bill Anderson**  
**Tommy Burnette**  
**Chris Foreman**  
**Don Hatch**  
**Christophe Hery**  
**Dev Mannemela**  
**Andre Mazzone**  
**Dan Piloni**  
**Simon Premoze**

*Fluid Simulation Engineers*  
**Andrew Selle**  
**Ron Fedkiw**  
**Frank Losasso**  
**Petterson Nick**  
**Rasmussen**

*Technical Support*  
**Chris Balog**  
**Eric Bermender**  
**Larry Hoki**  
**Jody Madden**  
**Kenn Moynihan**  
**Thaddeus Parkinson**  
**Anthony Randolph**  
**Jim Rothrock**  
**Kirk Shimano**  
**Brian Smith**  
**Eli Stair**  
**Ryan Wiederkehr**

*Model Directors of Photography*  
**Martin Rosenberg**  
**Patrick Sweeney**

*Model Stagehands*  
**Geoff Heron**  
**Richard Clot**  
**Bernie Demolski**  
**Joe Fulmer**



**"PIRATES OF THE CARIBBEAN 2"**  
CREW LIST

*VFX Supervisor*  
**John Knoll**

*Producers*  
**Ned Gorman**  
**Jill Brooks**

*Animation Director*  
**Hal Hickel**

*Associate Producer*  
**Lori Arnold**

*Production Coordinators*  
**Amber Kirsch**  
**Brian Barlettani**  
**Amy Spanner**  
**Julie Creighton**  
**Paula Nederman**  
**David Gray**

*Production Assistants*  
**Chrysta Burton**  
**Daniel Cavey**  
**Melissa DeSantis**  
**Courtney Ward**

*VFX Supervisor*  
**Bill George**

*Production Coordinator*  
**Damien Carr**

*Production Assistant*  
**Quinn Costello**

*Production Support*  
**Dennis Cooper**  
**Susan Greenhow**  
**Amie Zabit**

*CG Supervisors*  
**David Meny**  
**Patrick Myers**

*Compositing Supervisor*  
**Eddie Pasquarello**

*Creature Supervisor*  
**James Tooley**

*Mod: Creature Supervisor*  
**Geoff Campbell**

*Art Director*  
**Aaron McBride**

*Digital Matte Supervisor*  
**Susumu Yukuhiro**

*Mod: Hard Surface Supervisor*  
**Bruce Holcomb**

*Sequence Supervisor*  
**Neil Herzinger**

*DC: Lead Composer*  
**Jeff Sutherland**

*Lead Matchmover*  
**Jason Snell**

*Motion Capture Operators*  
**Michael Sanders**

*Rotoscoper*  
**Jack Mongovan**

*Concept/Art Director*  
**Wayne Lo**

*Editor*  
**Greg Hyman**

*Assistant Editor*  
**Jim Milton**

*Production Accountant*  
**Susan Macke**

*Creature Modelers*  
**Frank Gravatt**  
**Jung-Seung Hong**  
**Martin Murphy**  
**Giovanni Nakpil**  
**Mark Siegel**

*Hard Surface Modelers*  
**Kelvin Lau**  
**Joseph Suen**

*Creature Modelers*  
**Andrew Cawrse**  
**Lana Lan**  
*Hard Surface Modelers*  
**Simon Cheung**  
**Larry Tan**

*Viewpainters*  
**Leigh Barbier**  
**Catherine Craig**  
**Ron Woodall**  
**Jean Bolte**  
**Scott Bonnenfant**  
**Gus Dizon**  
**Susan Ross**

*Creature TDs*  
**Ken Bailey**  
**Michael Balog**  
**Duncan Blackman**  
**Tim Brakensiek**  
**Andy Buecker**  
**Brian Clark**  
**Tim Coleman**  
**Mike Corcoran**  
**Martin Coven**  
**Casey Dame**  
**Michelle Dean**  
**Karin Derlich**  
**David Deuber**  
**Andrew Dickinson**  
**Alec Fredericks**  
**Rene Garcia**  
**Maurizio Giglioli**  
**Scott Jones**  
**(Seung Hee) "Sunny" Lee**  
**(Seunghun) "Hun" Lee**  
**Lenny Lee**  
**John Levin**  
**Andrea Maiolo**  
**Scott May**  
**Vicky McCann**  
**Tim McLaughlin**  
**Timothy Naylor**  
**Kaori Ogino**  
**Hiromi Ono**  
**Scott Parrish**  
**Steve Sauers**  
**Jason Smith**  
**Joe Stevenson**  
**Renita Taylor**

**Eric Voegels**  
**"Sunny" (Li-Hsien) Wei**  
**Greg Weiner**  
**Jeff White**  
**Eric Wong**  
**Keiji Yamaguchi**  
**Henri Tan**

*Motion Capture*  
**Kevin Wooley**  
**Jonanthen Collins**

*Matchmovers*  
**Brian Cantwell**  
**Lanny Cermak**  
**Maria Goodale**  
**Tyler Ham**  
**Kerry Lee**  
**Joshua Livingston**  
**Luke Longin**  
**David Morris**  
**Marla Newall**  
**James Soukup**  
**John Whisnant**  
**Daniel Zizmor**  
**Alia Agha**  
**Wendy Hendrickson-Ellis**  
**Woonam Kim**  
**Jeffrey Saltzman**  
**Alex Tang**

*Lead Animators*  
**Marc Chu**  
**Steve Nichols**  
**Jamy Wheless**

*Animators*  
**Izzy Acar**  
**George Aleco-Sima**  
**Charles Alleneck**  
**Stephen Aplin**  
**Scott Benza**  
**Michael Berenstein**  
**Samati Boonchitsitsak**  
**Derrick Carlin**  
**Mickael Coedel**  
**Sean Curran**  
**Peter Daulton**  
**Michael Easton**  
**Jennifer Emberly**  
**Cameron Folds**



Leslie Fulton  
Jean-Denis Haas  
Tim Heath  
Geoff Hemphill  
Keith Johnson  
Paul Kavanagh  
Maia Kayser  
Peter Kelly  
Shawn Kelly  
Ronny Kim  
Makoto Koyama  
Scott Kravitz  
Nadine Lavoie  
Jonathan Lyons  
Kevin Martel  
Chris Mitchell  
Thai Nguyen  
Rick O'Connor  
Jakub Pisticky  
Mark Powers  
Steve Rawlins  
Jay Rennie  
Elliott Roberts  
Tracey Roberts  
Tom Roth  
Andrew Schneider  
Trish Schutz  
David Shirk  
David Sidley  
Greg Towner  
Delio Tramontozzi  
Chi Chung Tse  
Tim Waddy  
Chris Walsh  
David Washburn  
Talmage Watson  
Scott Wirtz  
Andy Wong  
Stephen Wong  
Sylvia Wong  
Roland Yopez  
John Zdankiewicz

#### *Digital Matte*

Joe Ceballos  
Bryant Griffin  
Brett Northcutt  
Kevin Page  
Benoit Pelchat  
Christopher Stoski  
Masahiko Tani  
Simon Wicker  
Barry Williams  
Benjamin Huber

#### *Production TDs*

Michael Bauer  
Jeffrey Benedict  
Matt Blackwell  
Aron Bonar  
Matt Bouchard  
Amanda Braggs  
Steve Braggs  
Sam Breach  
Jason Brown  
Tripp Brown  
Mario Capellari  
Amelia Chenoweth  
Terry Chostner  
Pamela Choy  
Ian Christie  
Paul Churchill  
Zachary Cole  
Pat Conran  
Lindy De Quattro  
Natasha Devaud  
Richard Ducker  
Russell Earl  
Raul Essig

Leandro Estebecorena  
Thomas Fejes  
Brian Flynn  
David Fogler  
Tim Fortenberry  
Christian Foucher  
Ryan Galloway  
Willi Geiger  
Howard Gersh  
Jeremy Goldman  
Jeremy Goldman  
John Goodson  
Jeff Grebe  
Branko Grujcic  
Gerald Gutschmidt  
Mike Halsted  
Craig Hammack  
John Hansen  
Jeff Hatchell  
Jack Haye  
David Hisanaga  
Zain Homer  
Peg Hunter  
Paul Huston  
Polly Ing  
Erich Ippen  
Michael Jamieson  
Ryan Jones  
Greg Killmaster  
Hilmar Koch  
Ed Kramer  
Erik Krumrey  
Donna Lanasa  
Jeroen Lapre  
Vinh Le  
Mohen Leo  
Josh Levine  
Melissa Lin  
Robert Marinic  
David Marsh  
Dennis Martin  
Tom Martinek  
Scott Mease  
Joseph Metten  
Melissa Mullin  
Ken Nielsen  
Jennifer Nona  
Jennifer Nona  
Khatsho Orfali  
Russell Paul  
Daniel Pearson  
Bruce Powell  
Henry Preston  
Scott Prior  
Ricardo Ramos  
Philippe Rebours  
Kevin Reuter  
Anthony Rispoli  
Alan Rosenfeld  
Kimberly Ross  
Jason Rosson  
Juan Luis Sanchez  
Frederic Schmidt  
Sean Schur  
Andy Selle  
Anthony Shafer  
Paul Sharpe  
Linda Siegel  
John Sigurdson  
Daniel Slavin  
Doug Smythe  
Ben Snow  
Kevin Sprout  
Damian Steel  
Nigel Sumner  
Douglas Sutton  
Eric Texier  
Meghan Thornton  
Vincent Toscano

Lee Uren  
John Walker  
Steve Walton  
Howie Weed  
David Weitzberg  
George "Colie" Wertz  
Joakim Arnesson  
Joel Aron  
Jean-Paul Beaulieu  
Tim Belsher  
Hayden Landis  
Keith McCabe  
Curt Miyashiro  
Chris Townsend  
*Digital Compositors*  
Mimi Abers  
Jon Alexander  
Tim Alexander  
Okan Ataman  
Al Bailey  
Misty Barbour  
Stella Bogh  
Pat Brennan  
Catherine Burrow  
Kela Cabrales  
Colin Campbell  
Pete Chesloff  
Leila Chesloff  
Grady Cofer  
Brian Connor  
Mike Conte  
Jay Cooper  
Michael Cordova  
Scott David  
Michael DiComo  
Jeff Doran  
Aidan Fraser  
David Fuhrer  
Grantland Gears  
Angela Giannoni  
Tim Gibbons  
David Gottlieb  
Shawn Hillier  
Robert Hoffmeister  
Jen Howard  
Dorne Huebler  
Katrin Klaiber  
Francois Lambert  
Kimberly Lashbrook  
Jessica Laszlo  
Keith MacGowan  
Sean Mackenzie  
Greg Maloney  
Tia Marshall  
Marcel Martinez  
Will McCoy  
Megan McGee  
Tory Mercer  
Myles Murphy  
Tom Proctor  
Tom Rosseter  
Barry Safley  
Gregory Salter  
Jerry Sells  
Nelson Sepulveda  
Ken Sjogren  
Davi Stein  
Patrick Tubach  
Todd Vaziri  
Bruce Vecchitto  
Pascale Ville  
Patrick Wass  
R. Jay Williams  
Jeff Wozniak  
Doug Wright  
Rita Zimmerman  
Matthew Brumit  
Tami Carter  
Don Crawford

Janeen Elliott  
Conny Fauser  
Sherry Hitch  
Mark Hopkins  
Steve Kennedy  
Mark Nettleton  
Scott Younklin

#### *Lead Sabre*

Chad Taylor

#### *Sabre*

Mark Casey  
Sam Edwards  
Greg Gilmore  
Adam Howard  
Kevin May  
Ben OBrien  
Janet Quen  
Alex Tropiec  
Dean Yurke  
Sebastien Moreau

#### *Rotoscopers*

Trang Bach  
Lance Baetkey  
Katie Baird  
Casey Basichis  
Kathleen Beeler  
Chris Bayz  
T.J. Burke  
Michaela Calanchini-Carter  
Kevin Coyle  
Beth DAmato  
Peter Demarest  
Dan Feinstein  
Bridget Goodman  
Justin Graham  
Cameron Griffin  
Trevor Hazel  
Jiri Jacknowitz  
Patrick Jarvis  
Sarahjane Javelo  
Drew Klausner  
Susan Klausner  
Jean-Claude Langer  
Jennifer MacKenzie  
Alyson Markell  
Jennifer McKnew  
Terry Molatore  
Lauren Morimoto  
Katie Morris  
Michelle Motta  
Rebecca Petrulli-Heskes  
Elsa Rodriguez  
Rene Segura  
Amy Shepard  
Zachary Sherman  
Kim Smith  
Scott Smith  
Sam Stewart  
David Sullivan  
Stephanie Taubert  
Alan Travis  
Kate Turner  
Erin West  
Eric Christensen

#### *Assistant TDs*

Marshall Candland  
David Hirschfield  
Cyrus Jam  
Margaret Oh  
Andrew Russell

#### *Resource Assistants*

Sebastian Feldman  
Kirk Shimano

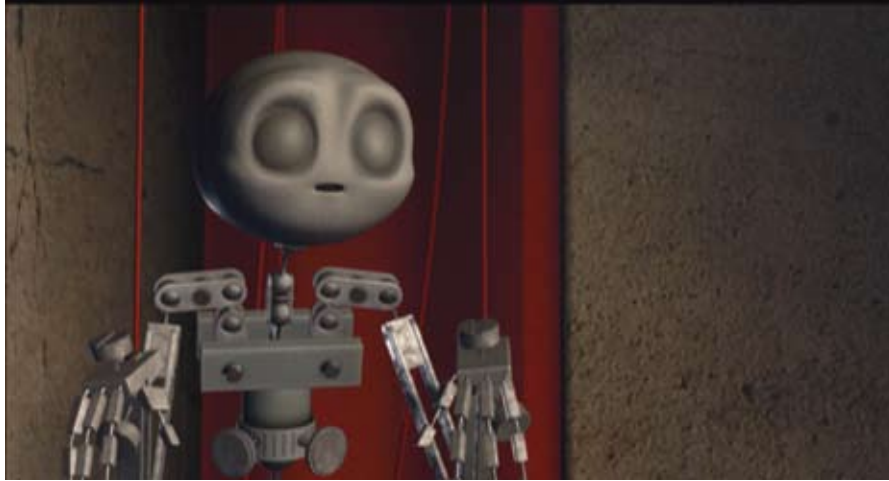


**Chih-Ming Chang**  
 California Institute of the Arts  
 14041 Badger Avenue  
 Sylmar, California 91342 USA

emailchihming@gmail.com

# In Search of the Puppeteer

ANIMATION THEATER



*Director*  
**Chih-Ming Chang**

*Texturing*  
**Pablo Calvillo**

*Animation*  
**Lei Yang**

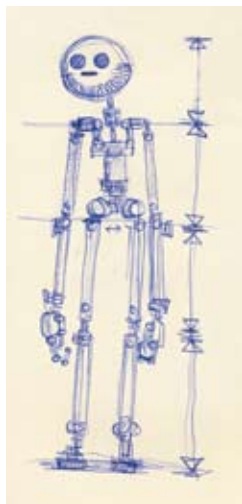
*Mixing/Sound Effects*  
**Jie Yu**

*Modeller*  
**Yung-Lo Chang**

*Lighting/Texturing*  
**Marianne Hayden**

*Music/Sound Effects*  
**Phiboon Phihakendr**

## PRE-PRODUCTION ARTWORK



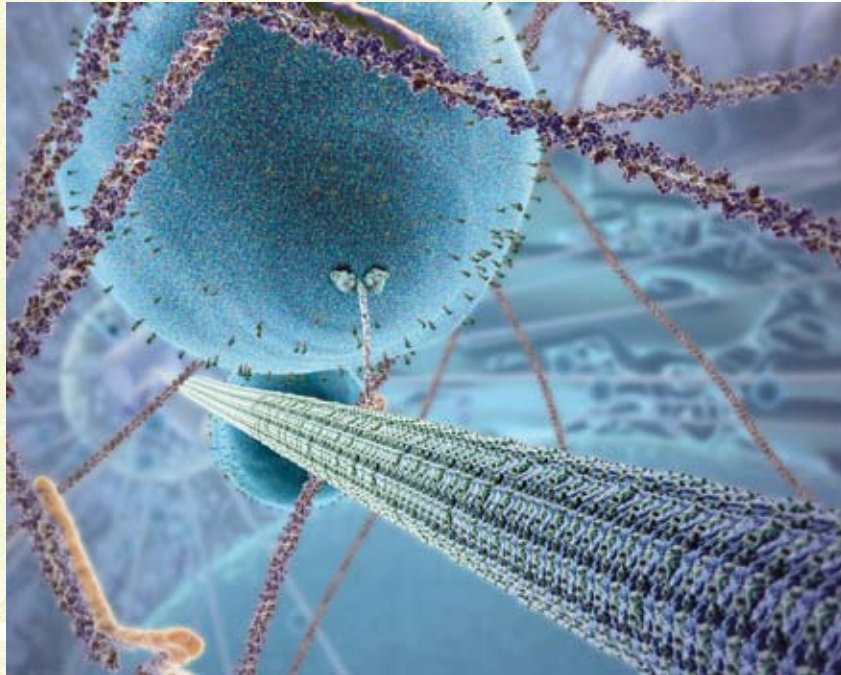
**Mary Ellen Graham**  
XVIVO LLC  
2360 Main Street  
Rocky Hill, Connecticut 06067 USA

[meg@xvivo.net](mailto:meg@xvivo.net)

# The Inner Life of the Cell

(excerpt)

ELECTRONIC THEATER



*Presented by*  
**Biovisions at Harvard University**

*Conception & Scientific Content*  
**Alain Viel**  
**Robert A. Lue**

*Animation*  
**John Liebler**

*Produced by*  
**XVIVO LLC**

*Producers*  
**David Bolinsky**  
**Michael Astrachan**

*Music*  
**Matt Berky,**  
**Massive Productions**

*Supported by*  
**Howard Hughes Medical Institute**



**Michel Gagné**  
 Gagné International, LLC  
 1225 E. Sunset Drive, Suite 145 PMB 336  
 Bellingham, Washington 98226 USA

gagneint@aol.com  
 www.gagneint.com

# Insanely Twisted Shadow Puppets - 12 Interstitials

ELECTRONIC THEATER



*Creator, Producer, Director*  
**Michel Gagné**

*Animator*  
**Mike Hogue**

"Call of the Wild"  
 "Mad Gremlin"  
 "UFO Landing"  
 "Poor Dog"  
 "Strange Couple"  
 "Poor Cat"  
 "Demon Head"  
 "The Juggler"  
 "Nightmare"

*Animator*  
**Jayson Thiessen**

"The Other Kind"  
 "The Eye"  
 "The Scream"

*Sound Engineer*  
**Andrew Scott**

*A Gagné International LLC Production,  
 Viacom Inc.*

**Guilherme Marcondes**  
Rua Batataes, 324, apartamento 51,  
Jardim Paulista  
São Paulo 01423 010 Brazil

info@guilherme.tv  
www.guilherme.tv

# Into Pieces

ELECTRONIC THEATER



*Director*  
**Guilherme Marcondes**

*Animation*  
**Guilherme Marcondes**

*Illustrations*  
**Daniel Bueno**

*Sound*  
**Paulo Beto**



**Mandi Stark**  
Aardman  
Gas Ferry Road  
Bristol BS1 6UN United Kingdom

mandi.stark@aardman.com

# Johnnie Walker "Paintings"

ANIMATION THEATER



## Agency

**BBH**

## Producer

**Alice Peppiatt**

## Assistant Producer

**Chantal Darbyshire**

## Art Director

**Justin Moore**

## Copy Writer

**Steve Robertson**

## Creative Director

**John Hegarty**

## Client

**Diageo**

## Contacts

**Peter Dee**

**Ben Anderson**

## Executive Producer

**John Woolley**

## Directors

**Bobby Proctor**

**Pat Gavin**

## Production Manager

**Fred de Bradeny**

## Production Coordinator

**Stephanie Shaw**

## LIVE-ACTION UNIT

### First AD

**Fred de Bradeny**

### Third AD

**Annabel Maidment**

### Runner

**James Fisher**

**Location Managers**

**Steve Mortimore**

**Lynette Kyme**

### Casting Director

**Anna Kennedy**

### Director of Photography

**Peter James**

### Camera Assistant

**Sam Morris**

### Focus Puller

**Graeme Campbell**

### Gaffer

**Richard Holborow**

### Electricians

**Trevor Hale**

**Nathan Sale**

### Fox's Flying Director

**Adam Searle**

### Fox's Flying Operator

**Peter Harpin**

## Set Construction

**Cliff Thorne**

## Art Direction

**Paul Galloway**

## Hair / Makeup

**Louise Allen**

## Wardrobe

**Judith Clarke**

## Artist (Hero)

**Cristian Solimeno**

## Extra (Victim)

**Paul Wiggins**

## Casting C/O

**CAM & PHOENIX Agencies**

## Catering

**Aardman Animations**

**Stuart Markovic**

## CGI UNIT

## BLOCKTHROUGH

## Supervising Animator

**Sergio Delfino**

## DELACROIX

## Supervising Animator

**Shaun Magher**

## Animators

**Pascale Bories**

**Mark Williams**

**Henry Lutman**

## Modeling/Texturing

**Mikey Ford**

**Henry Lutman**

**Tom Lord**

**Jay Clarke**

## Lighter

**Bram Ttwheam**

## Technical Directors

**Tom Downes**

**Philip Child**

## SEURAT

## Supervising Animator

**Mark Williams**

## Animators

**Pascale Bories**

**Adam Cootes**

## Modelers

**Steve Roberts**

**Tom Lord**

## Rigger

**Steve Roberts**

## Lighting/Texturing

**Darren Dubicki**

*Technical Director*  
**Tom Downes**

**MIRO**

*Supervising Animator*  
**Adam Cootes**

*Modelers*  
**Adam Cootes**  
**Philip Child**  
**Steve Roberts**

*Rigger*  
**Adam Cootes**

*Lighting/Texturing*  
**Andrew Lavery**

*Technical Directors*  
**Philip Child**  
**Tom Downes**

**MAGRITTE**

*Supervising Animator*  
**Bram Ttwheam**

*Modeler*  
**Bram Ttwheam**

*Rigger*  
**Bram Ttwheam**

*Lighter*  
**Bram Ttwheam**

*Technical Director*  
**Tom Downes**

**HOKUSAI**

*Director*  
**Pat Gavin**

*After Effects Animator*  
**Tom Gavin**

*In-House Editor*  
**Dan Williamson**

*Labs*  
**Deluxe/Soho Images**

*Facility House*  
**The Mill**

**MAKING OF DOCUMENTARY**

*Filmmaker*  
**Ben Dowden**



**Rizon Parein**  
Venusstraat 34  
2000 Antwerp, Belgium

info@rizon.be  
www.rizon.be

# K liquid

ANIMATION THEATER



*Client*  
**Kozzmozz**

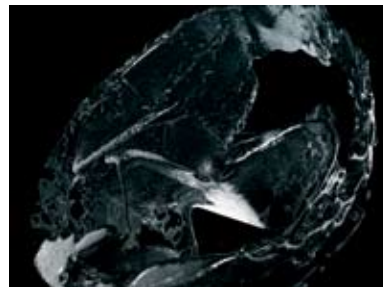
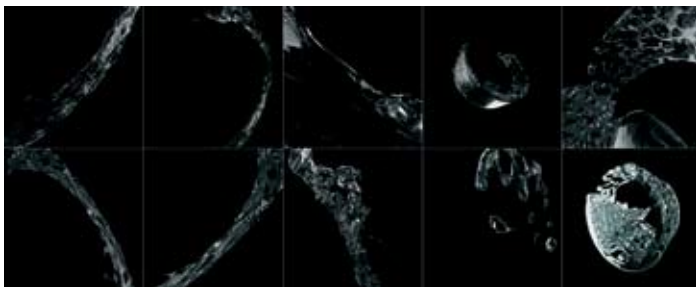
*Design, Modeling, and Animation*  
**Rizon Parein**

*Director*  
**Rizon Parein**

*Music*  
**Mike Wells of Gridlock /364**  
(one day with Proem remix)

*Software*  
**Realflow, Cinema 4d, After Effects**

## PRE-PRODUCTION ARTWORK





**Eileen Moran**  
 Weta Digital Ltd.  
 9 - 11 Manuka Street  
 Miramar  
 Wellington 6003 New Zealand

em@wetafx.co.nz

# King Kong

ELECTRONIC THEATER



**Digital Visual Effects Designed and Created by Weta Digital Ltd., Wellington, New Zealand**

*Senior Visual Effects Supervisor*  
**Joe Letteri**

*Visual Effects Producer*  
**Eileen Moran**

*Visual Effects Supervisors*  
**Ben Snow**  
**Scott E Anderson**  
**George Murphy**

*Kong Animation Designed and Supervised by*  
**Christian Rivers**

*Animation Designed and Supervised by*  
**Eric Leighton**

*Digital FX Supervisors*  
**Eric Saindon**  
**Dan Lemmon**

*3D CG Supervisors*  
**R. Christopher White**  
**Guy Williams**  
**Christopher Jon Horvath**  
**Simon Clutterbuck**

*Digital Compositing Supervisors*  
**Mark Tait Lewis**  
**Charles Tait**  
**Erik Winquist**

*Pre-Production CG Supervisor*  
**Matt Aitken**

*Digital Producer*  
**Cyndi Ochs**

*Art Director*  
**Michael Pangrazio**

*Massive Supervisor*  
**Jon Allitt**

*Creature Supervisor*  
**Dana Peters**

*Digital Destruction Supervisor*  
**Gray Horsfield**

*Camera Supervisor*  
**Lee Bramwell**

*Chief Technical Officer*  
**Milton Ngan**

*Head of Digital Imaging*  
**Pete Williams**

*Senior VFX Editor*  
**Matt Holmes**

*Special Projects Supervisor*  
**Mark Sagar**

*Software Development Supervisor*  
**Richard Addison-Wood**

*Production Software Supervisor*  
**Jeff Hameluck**

*Motion Capture Supervisor*  
**Dejan Momcilovic**

*Paint & Roto Supervisors*  
**Sandy Houston**  
**Quentin Hema**

*Production Managers*  
**Kevin Lee Sherwood**  
**Marvyn Young**

*Previsual Animation Designed and Supervised by*  
**Christian Rivers**

*Animation Supervisor*  
**Atsushi Sato**

*Animation Sequence Leads*  
**Jamie Beard**  
**Andrew Calder**  
**David Clayton**  
**Richard Frances-Moore**  
**Dietrich Hasse**  
**Paul Story**

*Senior Animators*  
**Elisabeth Arko**  
**Alvise Avati**  
**Stephen Buckley**  
**Oliver Exmundo**  
**Joe Han**  
**Christopher Hatala**  
**Keith Huggins**  
**Mike Leonard**  
**Chad Moffitt**  
**Jakub Pistecky**  
**Eric C. Reynolds**  
**Jason Snyman**  
**John Sore**  
**Mike Stevens**  
**Greg Towner**  
**Dennis Yoo**

*Animators*  
**James Bennett**  
**Graham Binding**  
**Jeremy Bolan**  
**Samati Boonchitsitsak**  
**Alex Burt**  
**Josh Cooper**  
**Frederic Cote**  
**Robb Denovan**  
**Richard Dexter**  
**Joel Fletcher**  
**Ben Forster**  
**Kameron Gates**  
**Aron Hatfield**  
**Traci Horie**  
**Wayne Howe**  
**Victor Huang**  
**Patrick Kalyn**  
**Ronny Kim**  
**Nadine Lavoie**

**Staffan Linder**  
**Randy Link**  
**Sophie Lodge**  
**Robyn Luckham**  
**Joel Meire**  
**Bill E. Miller**  
**Gwilym Morris**  
**Brett Purnal**  
**Matthew Riordan**  
**Kenny Roy**  
**Kristin Solid**  
**Jon Turburfield**  
**Don Waller**  
**George Y.S. Wong**

*Animation Technical Supervisor*  
**Shawn Dunn**

*Animation TDs*  
**William Dwelly**  
**Martin Kumor**  
**Christopher Otto Gallagher**

*Animation Department Managers*  
**Clare Burgess**  
**Cheryl Kerr**

*3D Sequence Leads*  
**Frank Dürschinger**  
**Mark Gee**  
**Kenneth Gimpelson**  
**Mikael Hakansson**  
**Martin Hill**  
**Joe Jackman**  
**Scott Kilburn**  
**Jake Lee**  
**Jean Matthews**  
**Nick McKenzie**  
**Sergei Nevshupov**  
**Jane S. O'Callaghan**  
**Mike Perry**  
**Roger Shortt**  
**Mark Tait**  
**Ben Thompson**  
**Craig Wentworth**  
**David Weitzberg**



### *3D Lighting Leads*

Cory Bedwell  
Chris George  
Todd Alan Harvey  
Sandip Kalsy  
Miae Kang  
Matthias Menz  
Jean-Colas Prunier  
Brian Samuels  
Gaku Tada  
Hanzhi Tang

### *3D Lighting TDs*

Michael Baltazar  
Kelly Bechtle-Woods  
Philip Borg  
Sam Bui  
Graeme Demmocks  
Patrick Felgueras  
Robert A.D. Frick  
David Gould  
Michael Grobe  
Anne Hall  
Christopher Hamilton  
Christian Hipp  
Katherine Hurst  
Jeff A. Johnson  
Tim Ketzer  
Balazs Kiss  
Susie May Kleis  
Mike Lemmon  
Aron Makkai  
Tom Mikota  
Keith F. Miller  
Daryl Munton  
Dylan Neill  
Carlos-Christian Nickel  
Jennifer Nona  
Paul George Palop  
Jae Wook Park  
Trina M. Roy  
Mahria Sangster  
Jason Schugardt  
Glen Sharah  
Vincent Thomas  
Andrew Titcomb  
Ben Toogood  
Andres Vitale  
Nancy S. Wallis  
Joyce Young

### *3D Digital Destruction TDs*

Buckley Collum  
Rob Conn  
Mark Davies  
Zachary Franks  
Hiroaki Muramoto  
Alex Nowotny  
Alireza Razmpoosh  
Kawaldeep Singh

### *Lead Digital Water TD*

Kevin Romond

### *3D Digital Water TDs*

Allen Hemberger  
Jason Lazaroff  
Michael Root  
Chris Young

### *Shader Writer*

Chu M. Tang

### *Colour Timer*

Joerg W. Bungert

### *Assistant TDs*

Alexandra Kirchdoerfer  
Christine Penn  
Mark Evans  
Joe Ardent

### *Compositing Sequence Leads*

Johan Aberg  
Colin Alway  
Sonia Calvert  
Norman Cates  
Paul Conway  
Areito Echevarria  
G.G. Heitmann  
David Houghton  
Saki Mitchell  
Frank Rüter  
Stefano Trivelli  
Matt Welford

### *2D Lead Compositors*

Jean-Luc Azzis  
Lyse Beck  
Simon Jung  
Laure Lacroix  
Phillip Leonhardt  
Alfred Murrle  
Karim Sahai  
Klaus Wuchta

### *Compositors*

Holly Acton  
Timothy Baier  
Richard Bain  
Joel Behrens  
John RA Benson  
Niki Bern  
Håkan Blomdahl  
David Brunette  
Julian Bryant  
Warwick Campbell  
Ean Carr  
Peter Connelly  
Steve Cronin  
Gareth Dinneen  
Brett Dix  
Yann-Angele Doray  
Christina Drahos  
Erich Eder  
Aidan Fraser  
Bill Gilman  
Moritz Glaesle  
Julian Gnass  
Geoff Hadfield  
Bruce Harris  
Ed Hawkins  
Jennifer Herbert  
Tim Hey  
Nicholas Hodgkinson  
Matt Holland  
Suzanne Jandu  
Kory Juul  
Matt Kasmir  
Kirsty Lamb  
Cam Langs  
Michael Lanzensberger  
Doug Larmour  
Kimberly Lashbrook  
Jessica Laszlo  
Thomas Loeder  
Natalie MacDonald  
Keith MacGowan  
Scott Marriott  
Steve McGee  
Steve McGillen  
Adam McInnes  
Chad Meire  
Ben Morgan  
Jeremy Nelligan  
Torbjorn Olsson  
Helen Paul  
Hannah Peirce  
Edward Plant  
Darren Poe  
Kelly Port  
Glen Pratt

Mark Richardson  
Sandra Roach  
Christoph Salzmann  
Olivier P. Sarda  
Caterina Schiffrs  
David Schnee  
Florian Schroeder  
Martin Simcock  
Cameron Smith  
Tamara Stone  
John Swinnerton  
Guerdon S. Trueblood  
Matthew Wallin  
Christian Wieser

### *Assistant Compositors – Senior Paint Artists*

Doug Cram  
Paul Redican  
Hamish Schumacher

### *2D Compositing Department Manager*

Kathryn Horton

### *Art Department Manager*

Hannah Bianchini

### *Matte Painters*

Peter Baustaedter  
Christian Haley  
Rachael Haupt  
Mathieu Raynault

### *Senior Photographer*

Matt Mueller

### *Reference Photographer*

Iva Lenard

### *Sky Photographer*

Guy Robinson

### *New York Researcher*

Melissa Goldstein

### *Research Librarian*

Carrie Miller

### *Creature FX Art Director*

Gino Acevedo

### *Kong Facial Setup Lead*

Andrew Camenisch

### *Kong Creature Lead Modeler*

Tibor Madjar

### *Fur Software Developer*

Martin Preston

### *Kong Fur Groom Leads*

Jeremy Goldman  
David Ostler

### *Senior Modelers*

Dave Cardwell  
Florian Fernandez  
Pascal Raimbault  
Marco Revelant  
Jeff Unay

### *Digital Modelers*

Josh Bare  
Adrian Bell  
Anto Bond  
Matthew Bullock  
Cedric Canlas  
Marco Di Lucca  
William J. Earl

Roderick Fransham  
Paul Jenness  
Mia Jewett  
Alex Kramer  
Andrew Kunzel  
Ruth-Anne Loveridge  
Simon Millanta  
Kaori Miyazawa  
James Moore  
James Ogle  
Stephane Paris  
Sujin Park  
Niklas Preston  
Michael Prince  
Richard Raimbault  
Greg Sharp  
Gershon Sissing  
Cameron Smither  
Justin Steel  
Peter Syomka  
Can Tuncer  
Phil Van der Reyden  
Jon Veal  
Nicole Weber

### *Lead Creature TDs*

Julian Butler  
Rudy Grossman  
Andrea Merlo  
Steve Preeg  
Eric Tang

### *Creature TDs*

Christine Arboit  
Dugan Beach  
Fernando Borges-Pacheco  
Glen Christie  
Michael Corcoran  
Emanuel Druckmann  
Briana Hamilton  
James Jacobs  
Lars Johansson  
Florian Linner  
Tim McCallum  
Eric Petey  
Aaron Pfau  
Jens Schwarz  
Adam Glendon Sidwell  
Marco Vidaurre

### *Pre-Production Department Manager*

Fiona Foster

### *Lead Texture Painters*

Simeon Duncombe  
Mykola Gabchenko  
Mel James  
Dmitri Krasnokoutski  
Hillary Yeo

### *Texture Painters*

Belinda Allen  
Mia Askew  
Ned Barraud  
Kyla Bendall  
Jennifer Bloomfield  
Hyeseung Nam Cardwell  
Jessica Cowley  
Francis Hsu  
Mathias Larserud  
Mark Miller  
Natalia Nevshupova  
Lorraine Reen  
Anne Ritter  
Åsa Svedberg  
Angela Ursillo  
Kara Vandeleur  
Trish Van't Hul  
Malcolm Wright

*Lead Massive TD*  
**Geoff Tobin**

*Senior Camera TDs*  
**Richard Hopkins**  
**Sergei Koudriavtsev**  
**Wolfgang Niedermeier**  
**Albrecht Steinmetz**

*VFX Senior On-Set Surveyors*  
**Malcolm Angell**  
**Nic Marrison**  
**Brian McMillin**

*On-Set Camera TD*  
**Eric Gambini**

*VFX On-Set Surveyor*  
**Stan Alley**

*Camera TDs/Matchmovers*  
**Michael Bain**  
**Erik Bierens**  
**Elisenda Faustino**  
**Paul Flanagan**  
**Stefan Galleithner**  
**Christoph Gaudi**  
**Peter Godden**  
**Allan Torp Jensen**  
**Oliver Kirchhoff**  
**Lars Kramer**  
**Gary Laurie**  
**Kurt Nellis**  
**Michael Sarkis**  
**Rolf Schneider**  
**Joe Woodward Stevenson**  
**Denis Trutanic**

*Lead Paint Artists*  
**Paula Bell Christine Cram**  
**Jim Croasdale**  
**Christine Feistl**  
**Emrys J. Plaisted**  
**Troy Ramsey**  
**Brad Selkirk**  
**Petra Stueben**

*Paint Artists*  
**Stella Ampatzi**  
**Michael Brazelton**  
**Seth Miller**  
**Karla Ventocilla Curby**

*Lead Roto Artists*  
**John-Michael Bills**  
**Martin Body**  
**Tim Cheng**  
**Peter Demarest**  
**Hugo Dominguez**  
**Agnes Gould**  
**Sandro Henriques**  
**Arek Komorowski**  
**David Luke**  
**Laura Murillo**  
**George Edwin Oliver Jr**  
**Jennifer Scheer**  
**Sam Stewart**

*Roto Artists*  
**Mark Bowen**  
**Adam Bradley**  
**Kate Burgess**  
**Evan Christie**  
**Paul Everitt**  
**Danny Jones**  
**Katya Hatice Kivilcim**  
**David Owen**  
**Christine Raymond**

**Junko Abe Schugardt**  
**Roxanne Sutherland-Valentine**

*VFX Editor*  
**Lucas Putnam**

*Associate VFX Editor*  
**Andy Stevens**

*Editorial Assistant/Projectionist*  
**Aaron Cubis**

*Editorial Assistant*  
**Hayley French**

*Scan/Record Supervisor*  
**Nick Booth**

*Scan/Record Technician*  
**Daniel Ashton**

*Scan/Recording Operator*  
**David Hampton**

*Pipeline Engineer Supervisor*  
**Lance Lones**

*Pipeline Engineers*  
**Luca Fascione**  
**Taisuke Tanimura**

*Software Developers*  
**Lawrence Chai**  
**Shane Cooper**  
**Philip Hunter**

*Sequence Managers*  
**Les Garfield Jones**  
**Michelle V. Leigh**  
**Sandy Coco Taylor**

*Sequence Production Coordinators*  
**Rebecca Piatek**  
**Michelle Waitzman**  
**Virginia C. Wilson**

*Assistant to Producer*  
**Erin Horton**

*Digital Resource Manager*  
**Adrian Samuels**

*Animation Coordinator*  
**Mike Wallis**

*Texture Department Coordinator*  
**Kelly Boak**

*Motion Edit/Destruction Coordinator*  
**Carrie Thiel**

*Camera Coordinator*  
**Becky Roberts**

*Recruitment Manager*  
**Tanya Buchanan**

*Contracts Coordinator*  
**Jacqui Gee**

*Relocation Manager*  
**Jeanne Stuart**

*Relocation Coordinator*  
**Inge Rademeyer**

*Publicity and Merchandising*  
**Danielle Birch**

*Sales and Marketing*  
**Robin Prybil**

*Accountant*  
**Steve Bayliss**

*Accounts Assistant*  
**Heather Kinaston-Smith**

*Facility Manager*  
**Mike Gunn**

*Production Assistants*  
**Laura-Jane Botting**  
**Andrew Cochrane**  
**Juliette Davis**  
**Jade Lorier**  
**Nicky Muir**  
**Shane Rangi**

*Production Runners*  
**Teresa Barsali**  
**James Boyce**  
**Jonny Doig**  
**Sally Gardiner**  
**Ben Hatton**  
**Kay Kienzler**  
**Daniel Marwick**  
**Spike Mountjoy**  
**Gosia Piatek**  
**Jennah Rasmussen**  
**Richard Thurston**  
**Matthew Webling**  
**Sarah Wilson**

*Motion Capture Department Manager/AD*  
**Lisa Wildermoth**

*Mocap Technician*  
**John Curtis**

*Mocap Studio TD*  
**James Van der Reyden**

*Mocap Stage Manager*  
**Jacob Botting**

*Mocap Production Assistant*  
**Emily Pearce**

*Motion Data Trackers*  
**Raymond Massa**  
**Chris Moss**  
**Scott Owen**

*Lead Motion Editors*  
**Bassim Haddad**  
**Tom Holzinger**

*Motion Editors*  
**Danilo Buendia**  
**Mario De Dios Barbero**  
**Daniel Eriksson**  
**Graham Hudson**  
**Luisma Lávin Peredo**  
**CJ Markham**  
**Klee Miller**  
**Sverker Nordqvist**  
**Stephan Remstedt**  
**Iwan Peter Scheer**  
**Ileana Stravoskiadi**

*Digital Operations Manager*  
**Adam Shand**

*Wrangler Manager*  
**Tristan McMahon**

*Systems Development Manager*  
**Tomek Piatek**

*Systems Manager*  
**Paul Gunn**

*Systems Engineer*  
**Bill Ryder**

*Senior Wranglers*  
**Joseph Wilkie**  
**Murray Nuttall**

*Database Administrator*  
**Svend Andersen**

*Macintosh Programmer*  
**Glenn Anderson**

*IT Coordinator*  
**Teresa Shand**

*Technical Support Leads*  
**Malcolm Aitchison**  
**John P. McMullen**  
**Campbell Taylor-Fairweather**

*System Administrators*  
**Ben Hall**  
**Campbell March**  
**Tim Nicholas**  
**Chris Winter**

*Technical Support*  
**Tom Chamberlain**  
**Jason Grindlay**  
**Chris Hodgetts**  
**John Young**  
**Kwan Wayne Yu Yee**

*System Coders*  
**Loren Brookes**  
**Nick Shore**  
**Jed Soane**

*Render/Data Wranglers*  
**Sindharmawan Bachtiar**  
**Kris Bieringa**  
**Andrew Lambert**  
**David Lenna**  
**Stephen Nixon**  
**Lorenzo Pierfederici**  
**Anna Sledkova**  
**Stas Solodkin**

*Additional Visual Effects by*  
**CafeFX, Inc.**  
**Asylum**

*Additional VFX Production*  
**Kim Lavery**  
**Hannah Clarke**

*Motion Capture Systems*  
**Giant Studios, Inc**  
**Motion Analysis Corporation**

*Blastcode Developer*  
**Helmar Gerhardt**

*New York Location Scouts*  
**Mark Waniga**  
**Carl Bellavia**  
**Sam Rohn**

*Lightstage USC ICT Senior Supervisor*  
**Paul Debevec**

*Supervisor*  
**Tim Hawkins**

# King Kong: “In a New York Minute”

ELECTRONIC THEATER

**R. Christopher White**  
Weta Digital Ltd.  
9-11 Manuka Street  
Miramar  
Wellington 6003 New Zealand

cwhite@wetafx.co.nz



*Directed by*  
**R. Christopher White**  
**Keith F. Miller**

*Digital Visual Effects Designed and Created by*  
**Weta Digital Ltd., Wellington, New Zealand**

*Senior Visual Effects Supervisor*  
**Joe Letteri**

*Visual Effects Producer*  
**Eileen Moran**

*Visual Effects Supervisor*  
**Ben Snow**

*Pre-Visual Animation Designed and Supervised by*  
**Christian Rivers**

*Digital FX Supervisor*  
**Dan Lemmon**

*3D CG Supervisor*  
**R. Christopher White**

*Digital Compositing Supervisor*  
**Charles Tait**

*Pre-Production Supervisor*  
**Matt Aitken**

*Digital Producer*  
**Cyndi Ochs**

*Massive Supervisor*  
**Jon Allitt**

*CTO*  
**Milton Ngan**

*Head of Digital Imaging*  
**Pete Williams**

*Senior VFX Editor*  
**Matt Holmes**

*Production Software Supervisor*  
**Jeff Hameluck**

*Animation Sequence Lead*  
**Paul Story**

*3D Sequence Leads*  
**Frank Dürschinger**  
**Mark Gee**  
**Kenneth Gimpelson**  
**Jake Lee**  
**Jean Matthews**  
**Nick McKenzie**  
**Sergei Nevshupov**  
**Mike Perry**  
**Roger Shortt**  
**Craig Wentworth**

*3D Lighting TDs*  
**Michael Baltazar**  
**Kelly Bechtle-Woods**  
**Sam Bui**  
**Graeme Demmocks**  
**Jeremy Goldman**  
**Todd Alan Harvey**  
**Christian Hipp**  
**Sandip Kalsy**  
**Susie May Kleis**  
**Matthias Menz**  
**Keith F. Miller**  
**Dylan Neill**  
**Jason Schugardt**  
**Glen Sharah**  
**Trina M. Roy**  
**Joyce Young**

*Matte Painter*  
**Rachael Haupt**

*Senior Photographer*  
**Matt Mueller**

*New York Researchers*  
**Melissa Goldstein**  
**Carrie Miller**

*Senior Modeler*  
**Dave Cardwell**

*Digital Modelers*  
**Michael Bain**  
**Josh Bare**  
**Anto Bond**  
**Matthew Bullock**  
**Cedric Canlas**  
**William J. Earl**  
**Mia Jewett**  
**Paul Jenness**  
**Alex Kramer**  
**Ruth-Anne Loveridge**  
**James Moore**  
**Simon Millanta**  
**James Ogle**  
**Sujin Park**  
**Niklas Preston**  
**Michael Prince**  
**Greg Sharp**  
**Gershon Sissing**  
**Cameron Smither**  
**Can Tuncer**  
**Phil Van der Reyden**  
**Nicole Weber**

*Pre-Production Department Manager*  
**Fiona Foster**

*Sequence Coordinators*  
**Rebecca Downes**  
**Virginia Wilson**

*Lead Texture Painters*  
**Simeon Duncombe**  
**Mykola Gabchenko**  
**Mel James**  
**Dmitri Krasnokoutski**  
**Hillary Yeo**

*Texture Painters*  
**Belinda Allen**  
**Mia Askew**  
**Ned Barraud**  
**Kyla Bendall**  
**Jennifer Bloomfield**  
**Hyeseung Nam Cardwell**  
**Jessica Cowley**  
**Francis Hsu**  
**Mathias Larserud**  
**Mark Miller**  
**Natalia Nevshupova**  
**Lorraine Reen**  
**Anne Ritter**  
**Åsa Svedberg**  
**Angela Ursillo**  
**Kara Vandeleur**  
**Trish Van't Hul**  
**Malcolm Wright**

*Lead Massive TD*  
**Geoff Tobin**

*Software Developers*  
**Lawrence Chai**  
**Shane Cooper**  
**Philip Hunter**  
**Martin Preston**

*VFX Editor*  
**Lucas Putnam**

*Associate VFX Editor*  
**Andy Stevens**

*Editorial Assistant/Projectionist*  
**Aaron Cubis**

*Editorial Assistant*  
**Hayley French**

**Institute of Animation, Visual Effects  
and Digital Postproduction**  
Filmakademie Baden-Württemberg  
Mathildenstrasse 20  
71638 Ludwigsburg, Germany

animationsinstitut@filmakademie.de  
www.animationsinstitut.de

# Kuhfo

ANIMATION THEATER



*Designed & Directed by*  
**Hannes Appell**  
**Holger Wenzl**

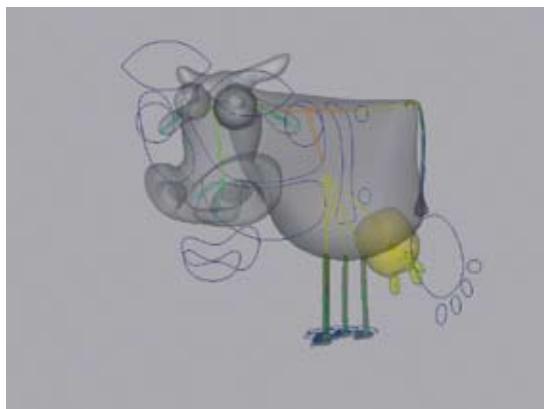
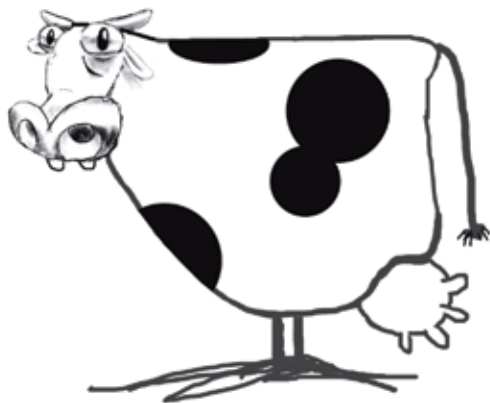
*Technical Director*  
**Sebastian Schmidt**

*Sound Design*  
**Chris Bremus**

*Producers*  
**Olli Dressnandt**  
**Max Penk**

*Production Company:*  
**Filmakademie Baden-Württemberg, Institute of Animation, Visual  
Effects and Digital Postproduction**

## PRE-PRODUCTION ARTWORK





# Kungfu Gecko

ANIMATION THEATER

**Elizabeth Wong**  
iHub, 9 Jurong Town Hall Road  
#02-52 to 56  
Singapore 609431

+1.323.297.2756  
+65.6665.1951/52  
info@eggstorycyp.com  
www.eggstorycyp.com



*Director/Producer*  
**Nickson Fong**

*Original Story*  
**Nickson Fong, Mike Anderson**

*Script and Screenplay*  
**Nickson Fong**  
**Dave Chua**

*Voice*  
**James Andrew**

*Additional Voice*  
**Jacques Deschambeault, Jr.**

*Music*  
**Victor Yap**

*Sound Fx*  
**Muse Pte Ltd**

*Art Director*  
**Wei Chih Yang**

*Production Manager*  
**Elizabeth Wong**

*Production Supervisor*  
**Ranna Seah**

*Production Assistant*  
**Joanne Seow**  
**Gek Peng Yeo (SMU Intern)**

*Illustrators*  
**Grace Toh (NYP)**  
**Jiunn Siang Yu (NYP)**  
**Siau Yene Ang**  
**Daren Lauchengco**  
**Henry Low**

*NYP Interns*  
**Yi Ting Ong**  
**Yong Zhen Tan**  
**Edric Yoeliawan**  
**Wen Hui Law**  
**Bee Bee Lim**  
**Yan Qing Low**  
**Shi Kee Ng**  
**Qian Yi Seah**  
**Kae Hwai Tan**

*Lead Lighting Artist*  
**An Huang (Andy)**

*Lighting Artists*  
**Jason Chun Lun Ma**  
**Kar Poh Mok**  
**Chris Chia**  
**T. Sankar**  
**Weng Seng Chan**  
**Ho Keung Chiu (Ah Dee)**  
**Cheng Chan Tey**  
**Koo Shyong Lew**  
**Eugene Wong (NYP)**  
**Michael Ng (NYP)**

*Lead Composer*  
**Ho Keung Chiu (Ah Dee)**

*Compositors*  
**Siau Yene Ang**  
**Peggy Tang**  
**Jason Chun Lun Ma**  
**An Huang (Andy)**

*Film Lab*  
**Digital Cinema Entertainment Pte Ltd**

*Lead Modeler*  
**Jason Chun Lun Ma**

*Modelers*  
**Siau Yene Ang**  
**Shervie Tan**

*NYP Interns*  
**Yong Zhen Tan**  
**Bee Bee Lim**  
**Shi Kee Ng**

*Lead Digital Paint Artist*  
**Siau Yene Ang**

*Digital Artists*  
**Peggy Tang**  
**Shi Kian**

*NYP Interns*  
**Wee Chung Teo**  
**Hong Ji Zhuo**  
**Choon Khee Lam**  
**Si Horng Lee**

**Levene Wong**  
**Jia Jin Phua**  
**Dian Ya Huang**  
**Shan Yang (RMIT Intern)**  
**Keet Mun Wong**  
**Jie Hao Chng**  
**Gut Hian Chng**

*Technical Animation*  
**Benjamin Cheung**

*Lead Animator*  
**Alvin Chung**

*Animators*  
**Hendra Kusuma**  
**Koo Shyong Lew**  
**Jacques Deschambeault, Jr.**  
**Shervie Tan**  
**Wei Chih Yang**

*Sculptor*  
**Alan Chan**

*Business Manager*  
**Damian Chew**

*Marketing Manager*  
**Elizabeth Wong**

*HR Manager*  
**Kuan Seng Yap**

*Business Development Executive*  
**Eva Lim**

*Production Accountant*  
**Catherine Chong**

*Head System Administrator*  
**Victor Yap**

*System Administrator*  
**Kar Poh Mok**

*Information System Support*  
**H.P. Tan (Sebastian)**

*Interactive Programmer*  
**Chris Chia**

*Interactive Designer*  
**Liang Xi (NYP Intern)**

*Head R&D*  
**John Lewis**

*Production Software Developers*  
**Remi Fontan**  
**Olivier Thibaut**

*NTU Interns*  
**Xiao Xian**  
**Xue Xiang**  
**Ann Wong (SMU Intern)**

*Videography*  
**Jacques Deschambeault, Jr.**

*Photography*  
**Ranna Seah**  
**Joanne Seow**

*Very Special Thanks*  
**Elim Chew, 77th Street**  
**Stephen Von Peltz**

*Special Thanks*  
**Allen J. Pathmarajah**  
**Andrew Phang**  
**Avid**  
**Chew Eng Han**  
**City Harvest Church**  
**Douglas Creel**  
**Hong Leong Finance**  
**Ian Macdonald**  
**Jimmy Hsu**  
**KTMK Interiors**  
**Lena Sim**  
**Michael Ma**  
**O'Connors**  
**Ong Ye Kung**  
**Pat Wang**  
**Philip Su**  
**Samuel Seow Law Corporation**  
**Wang Yiing Chuan**  
**Yu Sarn Audrey & Partners**

This project is powered by Fujitsu  
and energized by Apple.

**Alexander Beim**  
Ellerneck 67  
22149 Hamburg, Germany

alex@lotusart.de  
www.lotusart.de

# The MagicBox

ANIMATION THEATER



*3D & Video Production*  
**LotusArt**  
**Alexander Beim**

*Music & Sound*  
**LotusArt**  
**Alexander Beim**

# Memorial

ANIMATION THEATER

**Matt Clausen and Jon Gutman**  
 University of Southern California  
 MC 2211 Cinema  
 850 West 34th Street  
 Los Angeles, California 90089-2211 USA

info@memorialthefilm.com  
 www.memorialthefilm.com  
 +1.323.252.7425  
 +1.323.828.9784



*Written, Directed, Animated,  
 and Produced by*  
**Matt Clausen and Jon Gutman**

*Music & Sound Design*  
**Cosku Turhan**

*Sound Mix*  
**Stephanie B. Keane**

*Facial Performance*  
**Emily Lucas**

*Faculty Advisor*  
**Paul Demeyer**

*Special Thanks*  
**Elena Vassilieva**  
**Margaret Ballesteros**  
**Our Families**

*Faculty*  
**Christine Panushka**  
**Richard Weinberg**  
**Kathy Smith**  
**Eric Furie**  
**Mar Elepano**  
**Eric Hanson**

*Thanks*  
**Vidal Perez**  
**Brad Schaidler**  
**Shih-Ting Hung**  
**Pragya Tomar**  
**Hsin-I Tseng**  
**Cosku Turhan**  
**Zeynep Coskun**  
**David Bazon**  
**Geer Dubois**  
**Hao Gu**  
**Ben Hendricks**  
**Valerie Lapointe**  
**Terilyn Lawson**  
**Ceyla Doral**

## PRE-PRODUCTION ARTWORK



Storyboard



Concept art



Animated texture sample



**Junko Kawashima**  
 Digital Media Lab. Inc.  
 Century Tower, 2-2-9, Bunkyo-ku  
 Tokyo 113-0033 Japan

bri@dml.co.jp  
 www.dml.co.jp

# Monster Farm 5 Circus Caravan

ELECTRONIC THEATER



*Producer*  
**Keisuke Toyoshima**

*Director*  
**Goh Fujita**

*Production Manager*  
**Kunitaka Sato**

*Lead CG Animators*  
**Yoshiki Hanawa**  
**Masahito Honda**  
**Makoto Kazamaki**  
**Keiichi Nakaya**

*CG Animators*  
**Akihiko Kimura**  
**Saori Yoshimoto**  
**Tomoaki Morizumi**  
**Shane Blton**  
**Satoshi Ichihara**  
**Takashi Abe**  
**Yu Nagasaki**

*Composite Artists*  
**Keiko Ishino**  
**Arata Kawata**

*CG Modelers*  
**Fumihiro Shikano**  
**Masaki Mochizuki**

*Production*  
**Digital Media Lab, Inc.**

*Executive Producer*  
**Yoshimi Yasuda**  
**TECMO, LTD**

## PRE-PRODUCTION ARTWORK





**Jerome Schmitz**  
 Sony Pictures Imageworks  
 9050 West Washington  
 Culver City, California 90232 USA

jschmitz@spanimation.com

# Monster House: There Goes the Neighborhood

ELECTRONIC THEATER



*Imagery and Animation by*  
**Sony Pictures Imageworks**

*Visual Effects Supervisor*  
**Jay Redd**

*Animation Supervisor*  
**Troy Saliba**

*Associate Producer*  
**Crys Forsyth-Smith**

*Executive Visual Effects Producer*  
**Debbie Denise**

*Digital Producer*  
**Eric Scott**

*Digital Effects Supervisor*  
**Seth Maury**

*Co-Animation Supervisor*  
**T. Daniel Hofstedt**

*CG Supervisors*  
**Theo Bialek**  
**Patrick Cohen**  
**Francisco X. DeJesus**  
**Daniel Eaton**

*Visual Effects Art Directors*  
**Michael Scheffe**  
**George Suhayda**

*Imagemotion Stage Supervisor*  
**Demian "Dman" Gordon**

*Imagemotion/Integration Supervisor*  
**Albert Hastings**

*Modeling Supervisor*  
**Jim Doherty**

*Character Set-Up Supervisor*  
**J.J. Blumenkranz**

*Pipeline Supervisors*  
**Tad Gielow**  
**Bert Van Brande**

*Visual Effects Editor*  
**Elaine C. Andrianos**

*Digital Production Managers*  
**John Kreidman**  
**Mickey Levy**

*Marketing Coordinator, SPI*  
**Carlye Archibeque**

# Monster Samurai

ELECTRONIC THEATER

**Grace McNamee**  
 Sprite Animation Studios  
 6701 Center Drive West, Suite 1100  
 Los Angeles, California 90045 USA

grace@spritee.com  
 www.spritee.com



*Director*  
**Moto Sakakibara**

*Executive Producer*  
**Taro Maki**

*Art Director*  
**Tatsuro Maruyama**

*Character Design*  
**Tohru Patrick Awa**

*Supervising Animator*  
**Hideki Sudo**

*Script Writer*  
**Takawo Yoshioka**

*Sound Design*  
**Yoshikazu Iwanami**

*Composer*  
**Kou Ohtani**

*Shot Finalizing Artist*  
**Takuji Tomooka**

*Character Supervisor*  
**Tetsuya Ishii**

*VFX Artist/Technical Director*  
**Koji Kawamura**

*Character Modeling/Rigging*  
**Brian Emerson**  
**Paul Schoeni**  
**Charles Ellison**

*Animator*  
**Melik Malkasian**

*Co-Executive Producer*  
**Junichi Yanagihara**

*Marketing Director*  
**Grace McNamee**

*Line Producer*  
**Mitsuhiro Matsuno**

*Production Manager*  
**Ken Niyama**

*Production Assistant*  
**Jessica Halley**  
**Yuko Iwamoto**

*Music Producer*  
**Shunji Inoue**

*Music Production*  
**LANTIS**

*Sound Production*  
**GLOVISION**

*Software Engineer*  
**Tadashi Endo**  
**Masashi Nakata**

*Systems Administrator*  
**Masaru Horiuchi**

*Title Design*  
**Kanwa Nagafuji**

*US Voice Over Producer*  
**Kyoko Aihara**

*Monster Samurai*  
**Jaime Seibert**

*Dr. Pinto/Narrator*  
**Will Beily**

*Mai*  
**Stephanie Sheh**

*Asura*  
**Danny McBride**

*Kai*  
**Deborah Baer**

*Casting Director*  
**Yumi Takada**

*Script Translation*  
**Kennedy Taylor**  
**Rosemary Rivera**

*Recording Engineer*  
**Yoshi Miyamoto**

*Recording Studio*  
**VSA Studio**

## PRE-PRODUCTION ARTWORK



Character Design: Super Monster Samurai



Character Design: Midomaru



Character Design: Monster Samurai

# Moongirl

ANIMATION THEATER

## CONTACT

**Helen Kalafatic**  
LAIKA Entertainment  
1400 NW 22nd Avenue  
Portland, Oregon 97210 USA

ask\_us@laika.com25  
www.laika.com/pr/moongirl



*Written and Directed by*  
**Henry Selick**

*Producer*  
**Helen Kalafatic**

*Senior Producer*  
**Alvaro E. Cubillas**

*Executive Producer*  
**Jeff Farnath**

*CG Supervisor*  
**Dan Casey**

*Head of Story*  
**Mike Cachuela**

*Production Design*  
**Peter Chan**

*Editor*  
**Christopher Murrie**

*Inspired by an Original Story by*  
**Michael Berger**

*Score*  
**They Might Be Giants**

*Supervising Animator*  
**Travis Knight**

*Animation*  
**Kyle Bell**  
**Greg Kyle**  
**Raquel Coelho**  
**Robert McIntosh**  
**Brian Ormiston**

*Additional Animation*  
**Chris Ohlgren**  
**Ted Young**  
**Alex Inman**  
**Jason Baldwin**

*Production Manager*  
**Marlon Montgomery**

*Production Coordinator*  
**Molly Jo Sanderson**

*Production Assistant*  
**Dielle Alexander**

*Voice Talent*  
**Moongirl: Avrielle Corti**  
**Leon: Zach Shada**  
**Gargaloons: Henry Selick**

*Sequence Supervisors*  
**Chris Immroth**  
**Eric Kuehne**  
**Kate Nagy**  
**Roland Gauthier**

*Additional Story Development*  
**Jorgen Klubien**

*Additional Storyboards*  
**Ovi Nedelcu**

*Sculptor*  
**Tony Merrithew**

*Modeler*  
**Michael Berger**

*Layout*  
**Eric Kuehne**  
**Steve Kirchner**  
**Chris Immroth**

*Riggers*  
**Rob Ducey**  
**Roland Gauthier**

*Lighters*  
**Thane Hawkins**  
**Bjorn Liljequist**  
**Steve Molin**  
**David Trappe**

*Additional Lighting*  
**Clay Connally**  
**Brian Young**  
**John Jenkins**  
**Karl Richter**  
**John Volny**

*Effects*  
**Bob Powell**  
**Saba Roufchaie**  
**Dave Tonnessen**  
**Chris Bolwyn**  
**Karl Richter**  
**Patrick Van Pelt**  
**Benjamin Vu**

*Senior Texture Artist*  
**Ben Dishart**

*Character Texture Artist*  
**Dan Casey**

*Render/Shader TDs*  
**John Anderson**  
**Noah Klabunde**

*Render Wranglers*  
**Max Diener**  
**Nathan Winfrey**  
**Rene Monrroy**  
**Don Flores**

*Colorist*  
**Courtney Booker**

*Matte Painter*  
**Lauren Bair**

*Compositors*  
**Tom Burney**  
**Kristin Millette**  
**Michael Berger**  
**Dan Casey**

*R&D*  
**John Pierson**  
**Fran Zandonella**  
**Keith Gordon**

*Post Production Sound Services by*  
**Skywalker Sound**

*Re-recording Mixer & Sound Designer*  
**Chris Scarabosio**

*Sound Effects Editor*  
**David Accord**

*Foley Editor*  
**Bruce Lacey**

*Foley Artist*  
**Jana Vance**

*Foley Mixer*  
**Frank Aglieri-Rinella**

*Foley Recordist*  
**Sean England**

*Mix Technician*  
**Juan Peralta**

*Dialogue Record Facility*  
**Salami Studios**

*I.T. Manager*  
**Jonathan Rozes**

*Systems Administrator*  
**Ryan Sayre**

*Video Engineer/Tape Operator*  
**Trevor Cable**

*Production Accountant*  
**Brad Day**



**Eric Riewer**  
 Ed Ulbrich  
 Digital Domain Inc.  
 300 Rose Avenue  
 Venice, California 90291 USA

eulbrich@d2.com

# Motorola "Peb!"

ANIMATION THEATER



*Directed by*  
**David Fincher**

*Client*  
**Motorola**

*Global Creative Directors,  
 Mobile Devices*  
**Elena Panizza**  
**Tara Mathew**

*Agency*  
**180 Communications**

*Creative Director*  
**Adam Chasnow**

*Art Director*  
**Antero Jokinen**

*Copywriter*  
**Niklas Lilja**

*Senior Producer*  
**Tony Stearns**

*Production Company*  
**Anonymous Content**

*Director*  
**David Fincher**

*Executive Producer*  
**Dave Morrison**

*Head of Production*  
**Jeff Baron**

*Producer*  
**Robin Buxton**

*Visual Effects and Animation by*  
**Digital Domain, Inc.**

*Senior Vice President/  
 Executive Producer*  
**Ed Ulbrich**

*Head of Production*  
**Michael Pardee**

*VFX Producer*  
**Lisa Beroud**

*Digital Production Manager*  
**Chris House**

*VFX Supervisor*  
**Eric Barba**

*CG Supervisor*  
**Jay Barton**

*Digital Artists*  
**Tom Allen**  
**Gordon Chapman**  
**John Cooper**  
**Jim Gaczowski**  
**Cody Harrington**  
**Brad Herman**  
**Richard Morton**  
**Terry Naas**  
**Chris Yang**  
**Youngsam Suh**

*Lead Composer*  
**Jonny Hicks**

*Matte Paint Artists*  
**Joseph Farrell**  
**Marc Perrera**  
**Daniel Thron**

*Nuke Compositors*  
**Krista Benson**  
**Janelle Croshaw**  
**Greg Teegarden**

*Pre-Vis Artist*  
**Chris DeSantis**

*Editing by*  
**Rock Paper Scissors**

*Editor*  
**Angus Wall**

*Producer*  
**Scott Friske**

*Sound Design by*  
**MIT Out Sound**

*Sound Designer*  
**Ren Klyce**

*Sound Design Producer*  
**Misa Kageyama**



**Dayna Meltzer**  
 Walt Disney Animation  
 500 South Buena Vista Street  
 Burbank, California 91521-4944 USA

dayna.meltzer@disney.com

# Multi-Layered Cloth Simulation

ANIMATION THEATER



*Director*  
**Anthony LaMolina**

*Producer*  
**Craig A. Sost**

*Digital Leadership*  
**Tony Plett**  
**Darin Hollings**  
**Mike King**

*Software Development/Simulation*  
**Murilo Coutinho**

*Digital Management*  
**Dale Brodt**  
**Amy Lynne Clark**  
**Yvett Merino**

*Narration*  
**Tony Matthews**

*Editorial*  
**Patrick J. Voetberg**  
**Brian Master**  
**Chris Pinkston**

*Layout*  
**Robert Neuman**  
**Stephen Childers**

*Modeling*  
**Joe White**  
**Zach Petroc**  
**Philippe Brochu**  
**Leo Sanchez**  
**Paul Theren**  
**Sabina Suarez Basanta**

*Rigging*  
**Candice Miller**

*Animation*  
**Cinzia Angelini**  
**Jae Hong**  
**Mark Pudleiner**  
**Michael Kiely**  
**Duncan Majoribanks**

*Look Development*  
**Scott Kersavage**  
**Meg McWhinney**  
**Heidi Lin Mahoney**  
**Tiffany Lo**  
**Steve Dugaro**

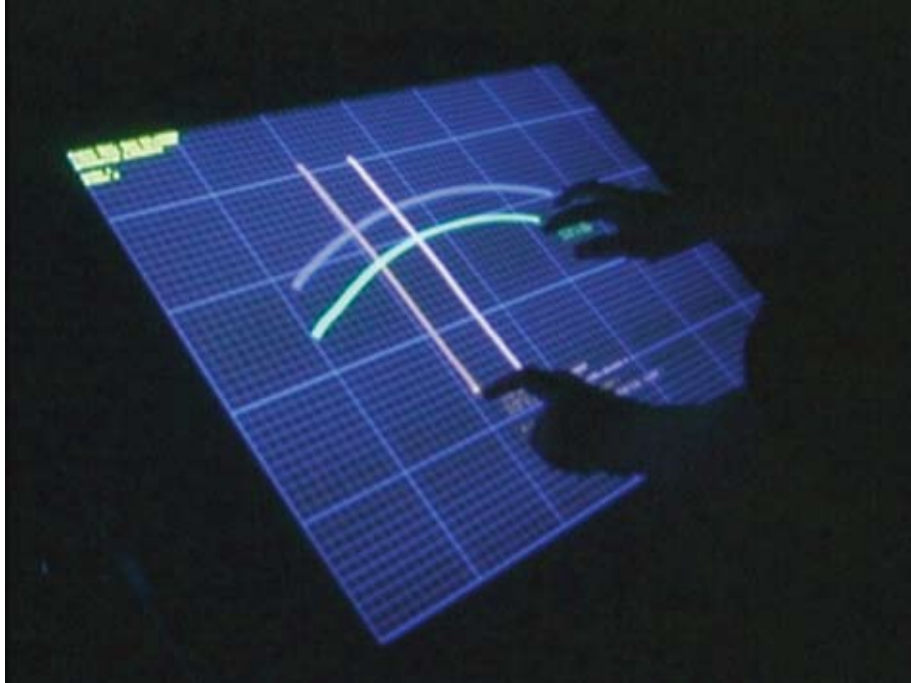
*Lighting/Compositing*  
**Mike Bauer**  
**Hans-Joerg Edmund Keim**  
**Benny Min Huang**  
**Osamu Takehiro**  
**David J. Hutchins**

# Multi-Touch Interaction Research

ANIMATION THEATER

**Jefferson Y. Han**  
New York University  
Courant Institute of  
Mathematical Sciences  
719 Broadway, 12th Floor  
New York, New York 10003 USA

jhan@mrl.nyu.edu  
mrl.nyu.edu/~jhan

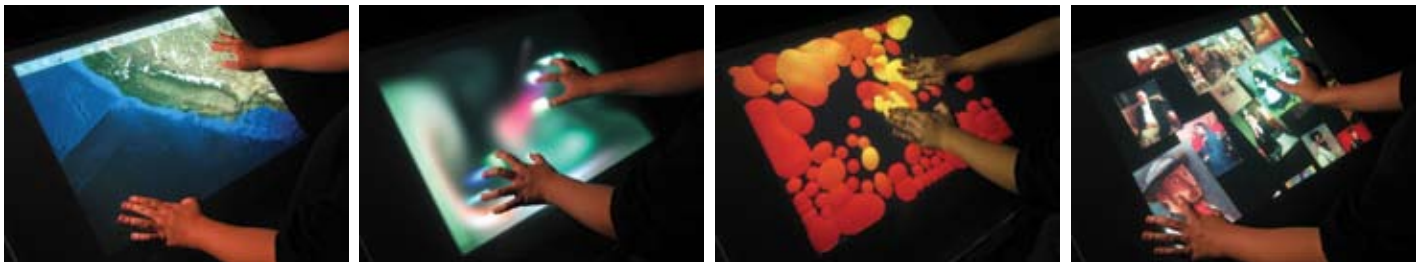


*Director*  
**Jefferson Y. Han**

*Contributors*  
**Philip L. Davidson**  
**Casey M. R. Muller**  
**Ilya D. Rosenberg**

*Music*  
“Who Am I,” by Peter Kruder

## PRE-PRODUCTION ARTWORK



# Musashino Plateau

ANIMATION THEATER

**Nobuo Takahashi**  
Nagoya City University  
2-1-10 Kitachikusa Chikusa-ku  
Nagoya 464-0083 Japan

ybbnt@yahoo.co.jp



*Director/Producer*  
**Nobuo Takahashi**

*Animation*  
**Akiko Konagaya**  
**Yukiko Baba**  
**Takashi Suzuki**  
**Keisuke Nozawa**  
**Masayuki Fujii**  
**Yuki Miura**  
**Mayumi Kawanishi**

*Music*  
**Hiroto Sasaki**

*Coordination*  
**Naoki Hashimoto**  
**Toru Ogura**  
**Nagoya City University**  
**Yoshida Gakuen**

## PRE-PRODUCTION ARTWORK



**Institute of Animation, Visual Effects  
and Digital Postproduction**  
Filmakademie Baden-Württemberg  
Mathildenstrasse 20  
71638 Ludwigsburg, Germany

animationsinstitut@filmakademie.de  
www.animationsinstitut.de

# My Date From Hell

ELECTRONIC THEATER



*Screenplay, Direction, Design,  
Modeling, Animation, Production*  
**Tim Weimann**

*Effects Animation, Effects  
Technical Direction*  
**Patrick Wachowiak**

*Music*  
**Andreas Kersting**

*Foley Artist*  
**Marcus Neuberger**

*Direction, Animation, Character  
Technical Direction, Editing*  
**Tom Bracht**

*Production*  
**Manuel Bickenbach**

*Sound Design*  
**Rüdiger Fleck**

*Production Company*  
**Filmakademie Baden-Württemberg,  
Institute of Animation, Visual  
Effects and Digital Postproduction**

## PRE-PRODUCTION ARTWORK





# Noggin

ELECTRONIC THEATER

**R. Brent Adams**  
Brigham Young University  
265 Crabtree  
Provo, Utah 84602 USA

adamsb@byu.edu



*Executive Producers*

**Kelly Loosli**  
**R. Brent Adams**  
**Ryan Woodward**

*Director*

**Alex Cannon**

*Producers*

**Jeff Whipple**  
**Kamy Leach**

*Technical Directors*

**Trent Crow**  
**Adam Cobabe**

*Music*

**Alan Williams**

*Sound Design*

**Jared Mooney**

*Scoring Mixer*

**Scott Cochran**  
**Nathan Allison**  
**Peter Anderson**  
**Rob Au**  
**Brent Critchfield**  
**Chad Erikson**  
**Andrew Gershler**  
**Drew Graham**  
**Seth Holladay**  
**Ian Jacobs**

**Josh Jenny**

**Nic Leach**  
**Kevin Leinbach**  
**Nick Naugle**  
**Lauralea Otis**  
**Jamie Titera**  
**Tyler Thomson**  
**Emma Weyerman**

## PRE-PRODUCTION ARTWORK



**Lisa Starace**  
RhinoFX  
50 East 42nd Street  
New York, New York 10017 USA

lisas@rhinofx.tv  
www.rhinofx.tv

# Northwest Airlines Transformations

ANIMATION THEATER



*Production Company*  
**RhinoFX**

*Director*  
**Arman Matin**

*Executive Producers*  
**Rick Wagonheim**  
**Camille Geier**

*DP*  
**Bill Bennett**

*Live-Action Line Producer*  
**Terry McGinnis**

*Live-Action Production Manager*  
**Kristen Ames**

*Advertising Agency*  
**Carmichael Lynch**

*Creative Director*  
**Jim Nelson**

*Executive Producer*  
**Jack Steinmann**

*Copywriter*  
**Brian Tierney**

*Art Director*  
**Brock Davis**

*Visual Effects*  
**RhinoFX**

*CG Director*  
**Natasha Saenko**

*Senior Animator*  
**Jeff Guererro**

*Lead Artist*  
**Joe Burrascano**

*Visual Effects Supervisor*  
**Josh Frankel**

*CG Modeler*  
**Paul Liaw**

*Lighting Artist*  
**Ido Klair**

*Technical Director*  
**Jesse Clemens**

*Animator*  
**Dan Vislocky**

*Producer*  
**Karen Bianca**

*Sound Designer*  
**Tom Lecher**

*Audio Engineer/Mixer*  
**Bethany Lacktorin**

*Composer*  
**Alex Berglund**

*Producer*  
**Kathy Yanko**

## PRE-PRODUCTION ARTWORK



Hikaru Yamakawa  
Media Arts Course  
Tohoku University of Art and Design  
Kamiskurada 200  
Yamagata-City 990-9530 Japan

y-hikaru@mvc.biglobe.ne.jp

# Oh Hisse

ANIMATION THEATER



*Director*  
**Hikaru Yamakawa**

*Animation*  
**Hikaru Yamakawa**

*Sound*  
**Kojiro Shishido**



# One Man Band

ANIMATION THEATER

**Steven Argula**  
 Pixar Animation Studios  
 1200 Park Avenue  
 Emeryville, California 94608 USA

sargula@pixar.com  
 www.pixar.com



*Written & Directed by*  
**Andrew Jimenez**  
**Mark Andrews**

*Produced by*  
**Osnat Shurer**

*Executive Producers*  
**John Lasseter**  
**Brad Bird**

*Music*  
**Michael Giacchino**

*Supervising Technical Director*  
**Bill Polson**

*Production Manager*  
**Nicole Paradis Grindle**

*Supervising Animator*  
**Angus MacLane**

*Editor*  
**Steve Bloom**

*Production Designer*  
**Ronnie Del Carmen**

*Animators*  
**Don Crum**  
**Ike Feldman**  
**Travis Hathaway**  
**Matt Majers**  
**Michael Makarewicz**  
**Dave Mullins**  
**Dan Nguyen**

*Matte Painter*  
**Randy Berret**

*Art Director*  
**Robin Cooper**

*Lighting Supervisor*  
**Ken Lao**

*Art*  
**Jason Deamer**  
**Laura Phillips**  
**Peter Sohn**

*Character Supervisor*  
**Bill Sheffler**

*Production Coordinators*  
**Dana Murray**  
**Alex Mandel**  
**Daniel Goodman**

*Technical Artists*  
**Jay Carina**  
**Junyi Ling**  
**Keith Olenick**  
**Samuel Daffner**  
**Holly Lloyd**  
**Jonathan Paine**  
**Andrew Dayton**  
**Meg McWhinney**  
**Lena Petrovic**  
**Sangwoo Hong**  
**David Munier**  
**Andrew Pienaar**  
**Sungyeon Joh**  
**Carmen Ngai**

**Dani Sukiennik**  
**Jef Kember**  
**George Nguyen**  
**Mark Therrell**  
**Robert Kinkead**  
**Mira Nikolic**  
**Brian Tindall**  
**Todd R. Krish**  
**Kelly O'Connell**  
**Matthew Web**

*Shading Lead*  
**Josh Qualtieri**

*Camera Lead*  
**Patrick James**

*Simulation Lead*  
**Jessica Abroms**

*Pre-Production Supervisor*  
**Marcia Jones**

*Special Thanks*  
**Steve Jobs**  
**Ed Catmull**  
**Sarah McArthur**  
**Simon Bax**  
**Lois Scali**  
**Susan T. Tatsuno**  
**Kevin Reher**  
**Mary Coleman**  
**Adam Cohen**  
**Tim Simonec**

*End Credit Design*  
**Becky Neiman**

*Production Assistant*  
**Susan Frank**

*Sound Design*  
**Skywalker Sound**

*Production Secretary*  
**Erin Allen**

*Post Production Supervisor*  
**Paul Cichocki**

*Color Grading and Film*  
**Josh Hollander**  
**David Lortsher**  
**Louis Rivera**  
**Jef Wan**

*Assistant Editor*  
**Chris Vallance**

## PRE-PRODUCTION ARTWORK



© Pixar



# One Rat Short

ELECTRONIC THEATER

**Bryan Godwin**  
Charlex  
2 West 45th Street  
New York, New York 10036 USA

bryan@charlex.com  
www.charlex.com



*Written & Directed by*  
**Alex Weil**

*Produced by*  
**Bryan Godwin**

*Executive Producer*  
**Chris Byrnes**

*Director of Photography*  
**Todd Winter**

*Edited by*  
**John Zawisha**

*Music Composed by*  
**Sherman Foote**

*Sound Design*  
**Paul Hsu**

*Lead Animators*  
**Pat Porter**  
**Tony Tabtong**  
**John Wilson**

*Animators*  
**Kyle Mohr**  
**Ben Willis**  
**Miles Southan**  
**Sam Crees**

*Additional Animation*  
**Jason Carswell**  
**Ross Scroble**  
**Nick Craven**

*Lighting Supervisor*  
**Jon Parker**

*Lighters*  
**Gong Myung Lee**  
**Jeff Chavez**  
**Will Atkin**  
**Cody Chen**  
**Karl Coyner**  
**Martin Boksar**

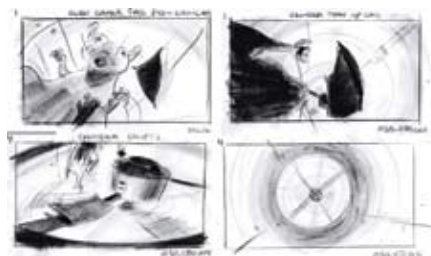
*Supervising TD*  
**Karl Coyner**

*Technical Direction, Effects*  
**Seth Lippman**  
**Bill Watral**  
**Stephanie Siebert**

*Lead Character TD*  
**Stephen Mann**

*Rigging*  
**Andre Stuppert**  
**Rob O'Neil**  
**Joe DiLallo**

## PRE-PRODUCTION ARTWORK



**Christine Perrin**  
 Gobelins L'ecole de L'image  
 73 boulevard Saint Marcel  
 75013 Paris, France

cperrin@gobelins.fr

# Open Book

ANIMATION THEATER



## *Directors*

**Iris Bonavitacola**  
**Virginie Hanrigou**  
**Raphaël Lev**  
**Carole Maurel**  
**Augustin Paliard**

## PRE-PRODUCTION ARTWORK



# “Open Season”: Separating the Trees From the Forest

ELECTRONIC THEATER



## *Directors*

**Jill Culton**  
**Roger Allers**

## *Co-Director*

**Tony Stacchi**

## *Co-Producer*

**Amy Jupiter**

## *Visual Effects Supervisor*

**Doug Ikeler**

## *Visual Effects Executive Producer*

**Jenny Fulle**

## *Head of Layout*

**James Williams**

## *Digital Effects Supervisor*

**Sean Phillips**

## *CG Supervisors*

**Max Bruce**  
**Thomas Hollier**  
**Darren Lurie**  
**David Satchwell**

## *Supervising Animators*

**Renato Dos Anjos**  
**Chris Hurtt**  
**Sean Mullen**  
**Todd Wilderman**

## *Digital Producer*

**Kirk Bodyfelt**

## *E-Theater Piece Editor*

**Nancy Frazen**

## *Online Editor*

**Ralph Cooley**

## *Marketing Coordinator, SPI*

**Carlye Archibeque**

## *Modeling*

**Alex Cheparev**  
**Hung Ma**  
**Anthony Patti**  
**Gaston Ugarte**  
**Jon Dorfman**

## *Art Director*

**Bryan Godwin**

## *Story Artist*

**Todd Winter**

## *Original Character Design*

**Michael Frith**

## *Character Design*

**Todd Winter**

## *Production Design*

**Michael Frith**  
**Christian Scheurer**

## *Creative Consultant*

**Milana Kosovac**

## *Additional Storyboards*

**Colin McGreal**  
**Matt Karol**

## *Post Lighting Design and Effects*

**Jesse Newman**

## *Graphics Animation*

**Marc Goldfine**

## *Graphic Design*

**John O'Callahan**

## *Additional Graphic Design*

**Jeff Stevens**  
**Will Kim**

## *Pre-Viz Editing*

**Kevin Matuszewski**  
**Rob Aiello**

## *Additional Story Development*

**Johnsua Seigel**  
**Emily Charmichael**

## *Supervising Sound Editor*

**Paul Hsu**

## *Stereo Re-Recording Mixer*

**Keith Reynaud**

## *Foley Artist*

**Mark Costanzo**

## *Foley Recordist*

**George A. Lara**

## *Foley Editor*

**Dave B. Flynn**

## *Sound Intern*

**Paloma Mele**

## *Post-Production Audio Facilities*

**C5 Inc.**

## *Studio Manager*

**Elisabeth Giglio**  
**Sound Lounge**

## *Rat Wrangler*

**Tasha Zamsky**  
**Paws for Effects**

## *VP of Engineering*

**Harry Skopas**

## *Chief Engineer*

**Rob Muzer**

## *Production*

**Sheri Patterson**  
**Bennett Lieber**  
**Stephanie Martin**  
**Ilyssa Katz**

## *Assistants to the Director*

**Nicole Martin**  
**Alex Jarman**

## *Special Thanks*

All of the people at Charlex whose dedication and hard work made this film possible

Their families and loved ones for their support

**Sarah Weil**



**R. Brent Adams**  
Brigham Young University  
265 Crabtree  
Provo, Utah 84602 USA

adamsb@byu.edu

# PetShop

ANIMATION THEATER



*Executive Producers*  
**R. Brent Adams**  
**Kelly Loosli**

*Director*  
**Trenton Halvorsen**

*Producer*  
**Bruce Holt**

*Technical Directors*  
**Seth Holladay**  
**Mikhail Merkurieff**

*Art Director*  
**Spencer Matsuura**

*Music*  
**Margot Glassett Murdoch**

*Sound*  
**Kreg Peeler**

*Production*  
**2004 Senior Animation Class**

## PRE-PRODUCTION ARTWORK





**Alex Baixas**  
 Ilion Animation Studios S.L.  
 Calendula, 93 Edificio H  
 28100 Madrid, Spain

alejandro.baixas@ilion.com  
 www.ilion.com

# Planet One Barbeque

ELECTRONIC THEATER



*Directed by*  
**Jorge Blanco**

*Co-Directed by*  
**Javier "Bucho" Abad Moreno**  
**Marcos Martinez Carvajal**

*Produced by*  
**Ignacio Perez Dolset**

*Original Story by*  
**Javier "Bucho" Abad Moreno**  
**Jorge Blanco García**  
**Marcos Martinez Carvajal**  
**Ignacio Perez Dolset**

*Screenplay by*  
**Javier "Bucho" Abad Moreno**  
**Jorge Blanco García**  
**Ray Loriga**  
**Marcos Martinez Carvajal**  
**Ignacio Perez Dolset**

*Unit Line Producer*  
**Alex Baixas Jimeno**

*Storyboard Supervisor*  
**Daniel Martinez Lara**

*Film Editor*  
**Javier "Bucho" Abad Moreno**

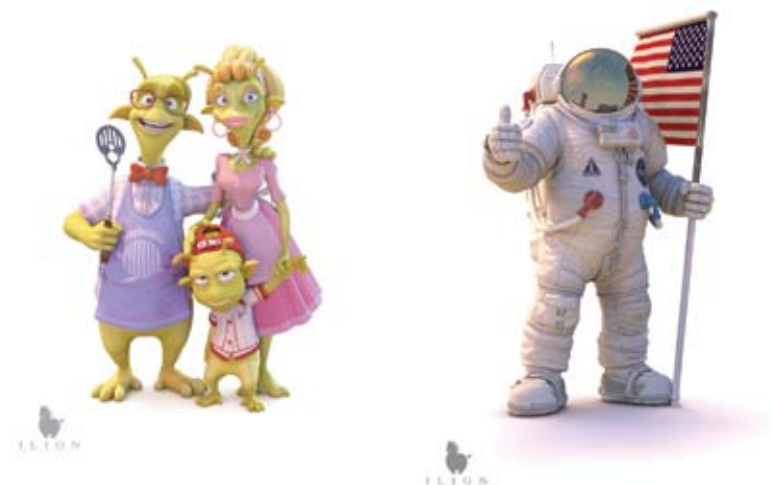
*Supervising Technical Director*  
**Gonzalo "Pixman" Rueda**

*Production Designer*  
**Julian Romero**

*Supervising Animator*  
**Javier "Bucho" Abad Moreno**

*Art Directors*  
**Jorge Blanco García**  
**Marcos Martinez Carvajal**  
**Julian Romero**

## PRE-PRODUCTION ARTWORK



*CG Supervisors*  
**Miguel Angel Jimenez**  
**Juan Solis**

*Voices*  
**Javier "Bucho" Abad Moreno**

*Character Design*  
**Ignacio Guejes**

*Production Artist*  
**Julian Romero**

*CG Painter*  
**Julian Romero**

*Storyboard*  
**Francisco Saez**

## CHARACTERS

*Lead Modeler*  
**Juan Solis**

*Setup and Rigging*  
**Miguel Angel Jimenez**

*Sets and Props*  
*Modeling and Shading*  
**Jorge Fernandez**  
**Jesus Orillan**  
**Jorge "Jordi" Villaroya**  
**Patricia Rivera**

*Animators*  
**Ramiro Lopez**  
**Javier Moya**  
**Enrique Oliva**

*FX*  
**Daniel Martinez Lara**

*Systems Administrators*  
*and Support*  
**Alejandro Carmona**

*Lighting and Compositing*  
*Lead Artist*  
**Jorge Blanco**

*Lighting and Compositing Artists*  
**Jose Ramos**  
**Alfonso Caparrini**

*Studio Tools R&D Developers*  
**Juan Antonio "Tony" Ambles**  
**Jose Luis "Luigi" Gomez**

ANIMATED PIXEL'S CYCLOPS  
RENDERING DEVELOPMENT TEAM

*Lead Developer*  
**Gonzalo "pixman" Rueda**

*Developers*  
**Alberto Arenas**  
**Alan King**

## POSTPRODUCTION

*Music Composition and Recording,*  
*Sound Design and Sound Editing*  
**Classic and New S.L.**

*Rendered by*  
**Cyclops Rendering Solution**



**Ila Soleimani**  
 Director, Animator  
 Saba Building, 15th Street, Apartment 13  
 Velenjak  
 Tehran 19858-56119 Iran

ila\_solomon@yahoo.com  
 www.ilasolomon.com

# Quest for the Mystic Moogoo Fruit!

ANIMATION THEATER



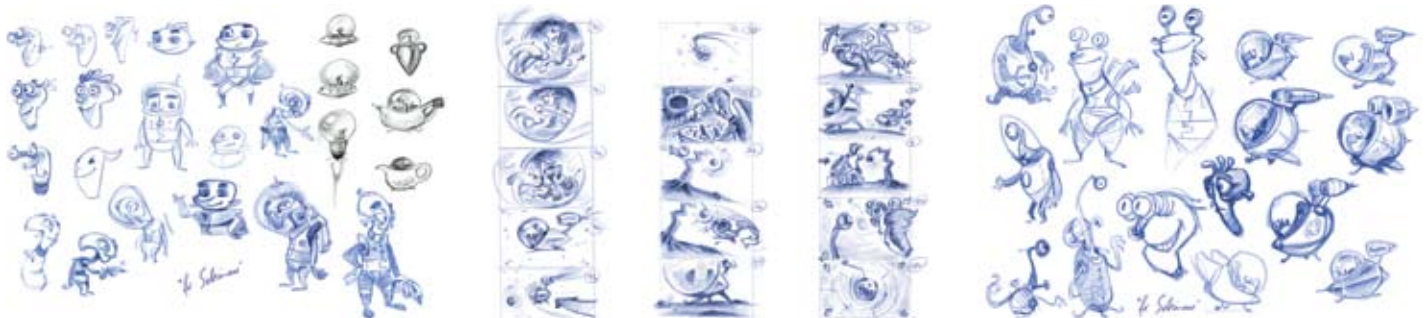
*Producer, Director, Writer, Designer,  
 and Animator*  
**Ila Soleimani**

*Consultant*  
**Amir M. Dehestani**

*Original Music, Sound FX, and Voice*  
**Marijn Jongewaard**

*Special Thanks to*  
**Paolo Daolio**  
**Ahmed Guerrouache**  
**Sam Javanrouh**  
**David Maas**  
**Fattaneh Taheri**

## PRE-PRODUCTION ARTWORK





# Race Cornetto Aphrodiziac

ANIMATION THEATER

**Javier Gutiérrez**  
Ciberfilms SC  
Amsterdam 121 B Col. Hipodromo  
Condesa  
México DF 6100 México

contacto@ciberfilms.com  
www.ciberfilms.com  
+52.55.5286.0903



*Director*  
**Javier Gutiérrez**

*Producer*  
**Susana Jacques**

*Creative Directors*  
**Jorge López**  
**Marichel Roca**  
**Javier Gutiérrez**

*Art Direction*  
**Javier Gutiérrez**

*Modeling*  
**Javier Gutiérrez**  
**Sergio López**

*Animation*  
**Javier Gutiérrez**  
**Pablo del Moral**

*Lighting Setup and Rendering*  
**Javier Gutiérrez**

*Compositor*  
**Pablo del Moral**

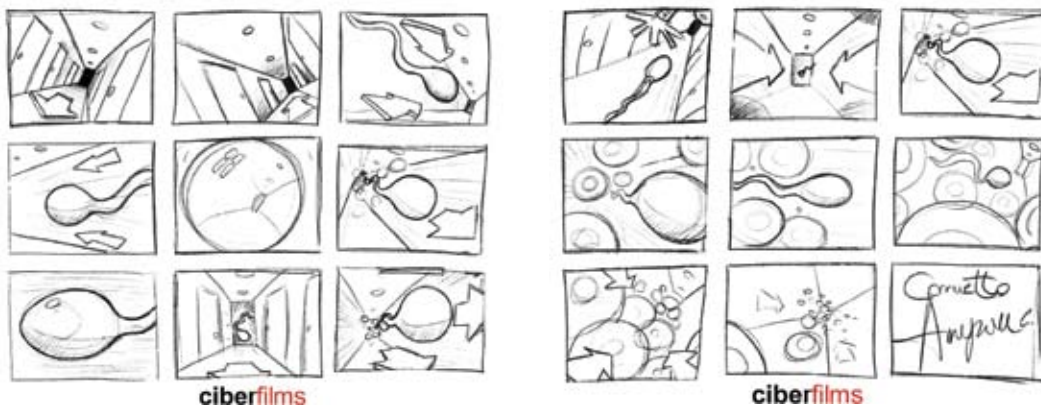
*Production Assistant*  
**Valeska Viveros**

*Music*  
**Luis Cardenas**

*Audio Engineer/Mixer*  
**Emilio Ortega**

*Announcer*  
**Emiliano Barruetos**

## PRE-PRODUCTION ARTWORK





**Institute of Animation, Visual Effects  
and Digital Postproduction**  
Filmakademie Baden-Württemberg  
Mathildenstrasse 20  
71638 Ludwigsburg, Germany

animationsinstitut@filmakademie.de  
www.animationsinstitut.de

# Racing Beats

ELECTRONIC THEATER



## Directors

**Alexander Kiesl  
Steffen Hacker**

## Camera

**Oliver Staubi**

## Producers

**Alexander Kiesl  
Steffen Hacker**

## Cast

**Hendrik Nachtsheim  
Gerd Knebel (Badesalz)  
Udo Schöbel  
Olaf Mill  
Masha Karell  
Janett Merz  
Eva Künzler**

## Script

**Alexander Kiesl  
Steffen Hacker**

## Editing

**Steffen Hacker  
Daniel Nolde**

## Music and Sound Design

**Alex Pfeffer**

## Grips

**Sebastian Stolle  
Joscha Brück  
Peter Hacker**

## Makeup

**Janett Merz**

**Eric Bruneton**  
 31, rue General Mangin  
 38100 Grenoble, France

ebruneton@free.fr  
[www.membres.lycos.fr/bruneton](http://www.membres.lycos.fr/bruneton)

# Rama

ANIMATION THEATER



*Modeling, Texturing, Lighting*  
**Eric Bruneton**

*Music*  
**"Misere" by Henry Jackman**

*Inspired by*  
**"Rendez-vous with Rama" by A.C. Clarke**

*3D Model Generator Developer*  
**Eric Bruneton**

*3D Model Generator Based on*  
**Arbaro  
 General Polygon Clipper  
 Libart  
 TopoVista  
 Triangle**

*Data Sources*  
**ATDI SDTS Data  
 Census 2000 TIGER/Line  
 Microsoft TerraServer**

*Software*  
**3Delight**



# Real Birds Don't Barf

ANIMATION THEATER

**Institute of Animation, Visual Effects  
and Digital Postproduction**  
Filmakademie Baden-Württemberg  
Mathildenstrasse 20  
71638 Ludwigsburg, Germany

animationsinstitut@filmakademie.de  
www.animationsinstitut.de



*Director, Script & Animation*  
**Bernhard Haux**

*Producer*  
**Björn Hoven**

*Voices*  
**Matthias Brodowy**  
**Christopher Weiß**  
**Bernhard Haux**

*Music*  
**Füenf - Die VokalSpottShow**

*Original Comic*  
**Walter Moers**

*Sound Design*  
**Ralf Jüliusson**

*Production Company*  
**Filmakademie Baden-Württemberg,**  
**Institute of Animation, Visual**  
**Effects and Digital Postproduction**

## PRE-PRODUCTION ARTWORK





## PRE-PRODUCTION ARTWORK

```

reflect code.pov

#declare st=texture[pigment{color rgb<0.80,0.82,0.84>*1.2}]
Finish{diffuse 0.0 ambient 0 specular 0.05 roughness 0.02 phong 1.0 brilliance 8 phong_size 120}
reflect{0.6,1.0}]

#declare st2=texture[pigment{color rgb<0.80,0.775,0.86>*1.2}]
Finish{diffuse 0.0 ambient 0 specular 0.05 roughness 0.02 phong 1.0 brilliance 8 phong_size 120}
reflect{0.5,1.0}]

#declare t5 = (From (0.1, 0) To (0.75, .38) To (1.15, .38) To (1.15,0));
#include <colen>
#declare r=seed(33503847*clock);
#declare k=0;
while(k<.999)
  light_source
    -10*2*pi*color rgb Cnv2828<1*360,0,7>*15*/3.7728 !user more if high max trace
    parallel
      rotate z=360*clock
      rotate x=160*71
#end
#declare smp = (From (0.1, 0) To (.1, .0) To (.1,0) To (.15,1));
#declare amc = (From (.1, 1) To (.1, 0) To (.75,70) To (.1,0) To (.15,70));
#declare t8 = (From (0.1, 0) To (1.15,0) To (1.15, 1));
  camera
    location -10*2
    look at 5
    angle .4
#declare cla = (From (0.1, 0) To (.1,0) To (.85,1) To (1.05,0));
#declare sra = (From (0,0) To (0.1, 0) To (1.15,0) To (1.15, .38));
#declare n=
  normal {
    average
    normal_map {
      [CLN bump] 0.04 *BPN noise_generator 3 rotate -360*clock scale 10]
      [CLN bumps 0.04 *BPN noise_generator 3 rotate 360*clock scale 10]]}

plane{ s,1 texture[st normal(N)] translate z=0 no_shadow}
plane{ s,1 texture[st normal(N scale -x'')] translate z=2*clock hollow no_shadow no_image}

global_settings{
  max_trace_level 30
  max_intersections 999
  number_of_waves 1}

```



**Paul Debevec**  
 University of Southern California  
 13274 Fiji Way, 5th Floor  
 Marina del Rey, California 90292 USA

debevec@ict.usc.edu  
[www.debevec.org](http://www.debevec.org)

# Relighting Human Locomotion

ANIMATION THEATER



*Director*  
**Paul Debevec**

*Producer*  
**Tomas Pereira**

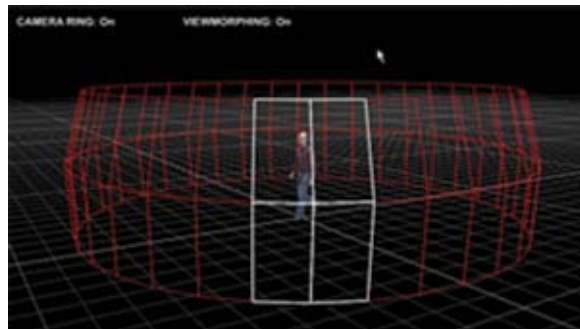
*Editor*  
**Aimee Dozois**

*Contributors*  
**Charles-Felix Chabert**  
**Per Einarsson**  
**Tim Hawkins**  
**Katsunori Ishikawa**  
**Andrew Jones**  
**Bruce Lamond**  
**Wan-Chun Ma**  
**Brian Miller**  
**Carlos Rodriguez**  
**Sebastian Sylwan**

## PRE-PRODUCTION ARTWORK



The lighting apparatus, treadmill, and turntable used for capturing human locomotion from multiple viewpoints under time-multiplexed lighting.



Screenshot of real time renderer illustrating the virtual camera array.

(Top Image) Several instances of the subject are rendered into an image-based virtual environment with correct illumination.

**Stephanie Bruning**  
 Framestore CFC  
 9 Noel Street  
 London W1F 8GH United Kingdom

steph.bruning@framestore-cfc.com  
 www.framestore-cfc.com

# Rexona "Go Wild"

ELECTRONIC THEATER



*Agency*  
**Lowe London**

*Copywriter*  
**Tom Hudson**

*Art Director*  
**Lee Goulding**

*Agency Producer*  
**Charles Crisp**

*Production Company*  
**Biscuit Filmworks  
 Independent**

*Director*  
**Noam Murro**

*Producers*  
**Richard Packer (Independent)  
 Holly Vega & Jay Veal (Biscuit  
 Filmworks)**

*VFX Supervisor/Inferno*  
**Stephane Allender**

*CGI Supervisor/TD*  
**Andy Boyd**

*Lead Animator*  
**Dale Newton**

*Senior Technical Directors*  
**Dan Seddon  
 Simon Stoney**

*Technical Directors*  
**David Mellor  
 James Healy  
 Michele Fabbro**

*Animators*  
**Nicklas Andersson  
 Kate Hood  
 Dean Robinson  
 Luca Mazzoleni  
 Brad Silby  
 Craig Penn  
 Vincent Devay  
 Laurent Benhamo**

*Modeling*  
**Alex Doyle  
 Simon French**

*Matte Artists*  
**Dasha Ashley  
 Nicha Kumkeaw**

*Inferno Assistant*  
**Chris Redding**

*3D Assistant*  
**Paul Jones**

*Telecine*  
**Steffan Perry**

*Post Producer*  
**Abby Orchard**

# Robin Hood Flour - Giving

ELECTRONIC THEATER

**Raph Quirino**  
 Red Rover Studios  
 345 Adelaide Street West, Suite 500  
 Toronto, Ontario M5V 1R5 Canada

raph@redrover.net  
 www.redrover.net



*Director*  
**Richard Rosenman**

*Character Designs*  
**Andy Knight**

*Executive Producer*  
**Danielle Araiche**

*Producer*  
**Christina Helmer**

*Technical Director*  
**Ben Pilgrim**

*Animation Director*  
**Kyle Dunlevy**

*Assisting Animator*  
**Matt Kowaliszyn**

*Environment, Prop Modeling,  
 and Texturing*  
**Chris Crozier**  
**Mike Oliver**

*Assisting Prop Modeler*  
**Britton Plewes**

*Hair Dynamics*  
**Mike Oliver**

*Lighting & Rendering*  
**Richard Rosenman**

*Compositing*  
**Brad Husband**

*Tag Graphics*  
**Stephanie Dudley**

*Editor*  
**Trevor Lloyd**

## OGILVY & MATHER CREDITS

*Senior Art Director*  
**Nick Burton**

*Chief Creative Officer*  
**Janet Kestin**

*Senior Copywriter*  
**Miles Markovic**

*Agency Producer*  
**Shenny Jaffer**

*Sound Design*  
**Pirate Radio**



**Raph Quirino**  
 Red Rover Studios  
 345 Adelaide Street West, Suite 500  
 Toronto, Ontario M5V 1R5 Canada

raph@redrover.net  
 www.redrover.net

# Robin Hood Flour - Memories

ANIMATION THEATER



*Director*  
**Richard Rosenman**

*Character Designs*  
**Andy Knight**

*Executive Producer*  
**Danielle Araiche**

*Producer*  
**Christina Helmer**

*Technical Director*  
**Ben Pilgrim**

*Animation Director*  
**Kyle Dunlevy**

*Assisting Animator*  
**Matt Kowalyszyn**

*Environment, Prop Modeling,  
 and Texturing*  
**Chris Crozier**  
**Mike Oliver**

*Hair Dynamics*  
**Mike Oliver**

*Lighting and Rendering*  
**Richard Rosenman**

*Compositing*  
**Brad Husband**

*Tag Graphics*  
**Stephanie Dudley**

*Editor*  
**Trevor Lloyd**

OGILVY & MATHER CREDITS

*Senior Art Director*  
**Nick Burton**

*Chief Creative Officer*  
**Janet Kestin**

*Senior Copywriter*  
**Miles Markovic**

*Agency Producer*  
**Shenny Jaffer**

*Sound Design*  
**Pirate Radio**



**Anargyros Sarafopoulos**  
NCCA  
Bournemouth University, Talbot Campus  
Fern Barrow  
Bournemouth BH12 5BB United Kingdom

asarafo@bournemouth.ac.uk

# Sciatica

ANIMATION THEATER



*Director*  
**Peter Nancolis**

*Producer*  
**Bournemouth University NCCA**

*Music*  
**Peter Nancolis**

*Hardware and Software*  
**Maya, Shake, Linux, DELL Workstations.**

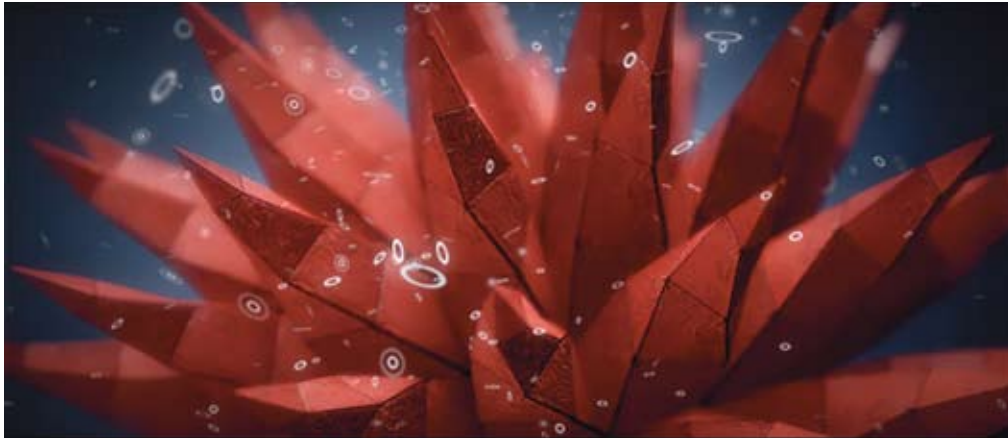
*Animator*  
**Peter Nancolis**

**Makoto Yabuki**  
 TANGRAM Co. Ltd.  
 Misaki bldg 402,1-14-20 Tomigaya  
 Shibuya 151-0063 Japan

yabu@tangram.to

# Scope

ANIMATION THEATER



*Director*  
**Makoto Yabuki**

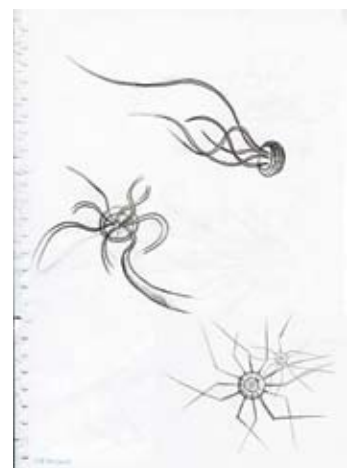
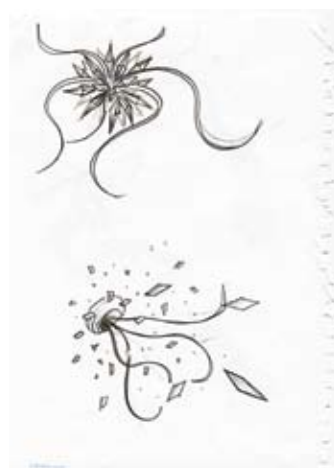
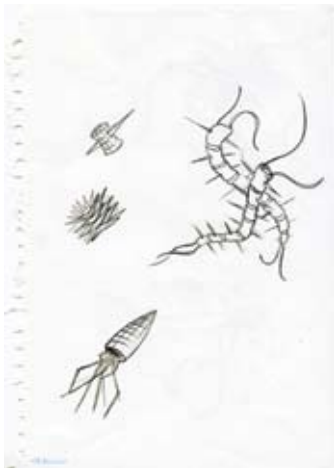
*Designer/Animator*  
**Makoto Yabuki**

*Sound*  
**Rei Harakami [sublime records]**

*Production Company*  
**TANGRAM Co. Ltd.**

*Producer*  
**Makoto Yabuki**

## PRE-PRODUCTION ARTWORK





**Steven Ford**  
CDIA  
4 Grove Street  
Lexington, Massachusetts USA

stford1@gmail.com

# Sharing Bears

ANIMATION THEATER



*Director*  
**Steven Ford**

*Music*  
**Tom Lehrer**

*Software*  
**Maya, Photoshop, AfterEffects,  
Premier, Final Rig**

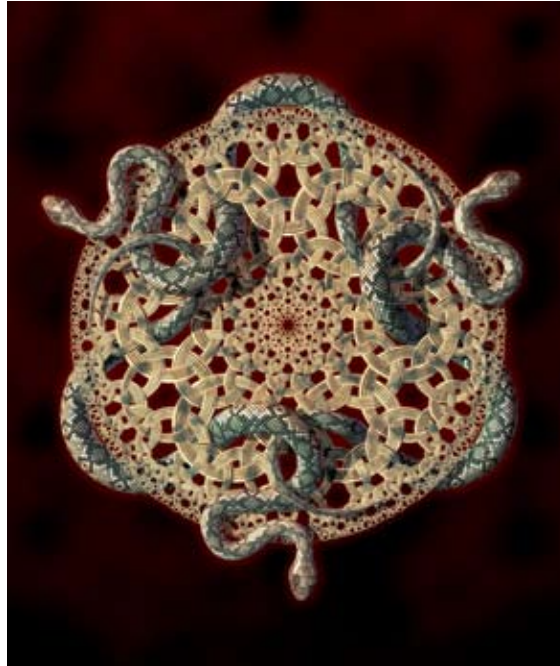
*Thanks*  
**Mom and Dad**

**Cristobal Vila**  
Camino de Fillas, 18,  
50013 Zaragoza, Spain

cristobal@etereaestudios.com  
www.etereaestudios.com

# Snakes

ANIMATION THEATER



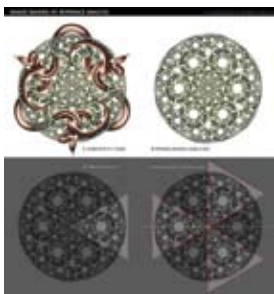
*Direction, Production, 3D Modeling,  
Texturing, Lighting, Animation, Editing,  
and Postproduction*  
**Cristóbal Vila**

*Inspired by a woodcut by M. C.  
Escher*

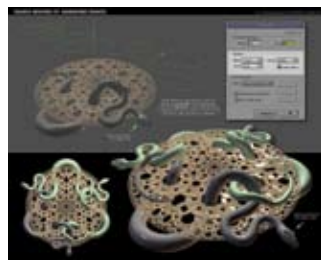
*Music*  
"Trois Gnossiennes, number 3"  
by Eric Satie

*Piano*  
**Klara Körmendi**

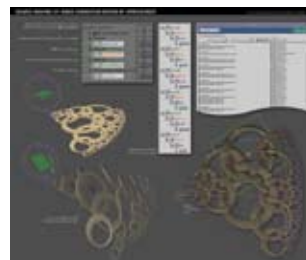
## PRE-PRODUCTION ARTWORK



Analysis of references



Snakes animation



Rings animation



Rings 3D morphing



# Solomon Grundy

ANIMATION THEATER

## Chris Myers

Savannah College of Art and Design  
55 East Deerwood Road, Apartment 198  
Savannah, Georgia 31410 USA

chris@chrismyers3d.com

www.chrismyers3d.com  
www.solomongrundyfilm.com  
www.kennethseward.com



## Development

**Ken Seward**  
**Chris Myers**

## Research

**Natalie Moore**

## Producer

**Natalie Moore**

## Art/Concept Director

**Ken Seward**

## Texturing Director

**Joshua Muntain**

## Animation Director

**Chris Myers**

## Lighting Director

**Jen-Feng Tsai**

## Pipeline Manager

**Suresh Narayanasami**

## Executive Producer

**Bridget A. Gaynor**

## Animators

**Chris Myers**  
**Joshua Muntain**  
**Suresh Narayanasami**  
**Ken Seward**  
**Natalie Moore**

## Rendering

**Suresh Narayanasami**  
**Jen-Feng Tsai**

## Sound Editor

**Joshua Muntain**

## Modelers

**Character Modeler**  
**Jen-Feng Tsai**

## Stage & Props

**Ken Seward**  
**Joshua Muntain**

## Rigging

**Craig Dunn**  
**Chris Myers**

## Textures

**Ken Seward**  
**Joshua Muntain**  
**Natalie Moore**

## Narration

**Katy Davis**

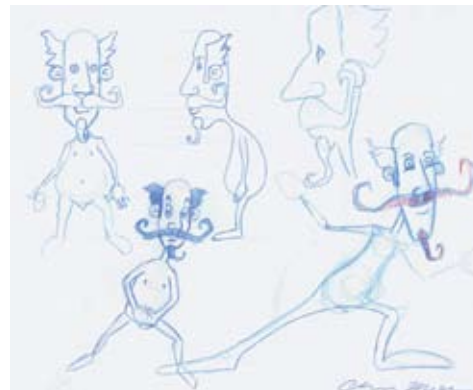
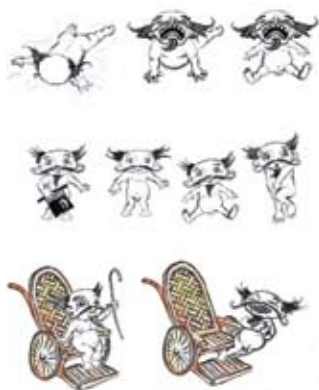
## Web Site/Motion Graphics

**Chris Myers**

## Software

**Alias Maya and Adobe After Effects**

## PRE-PRODUCTION ARTWORK



# Suba

ANIMATION THEATER

**William Rockall**  
Jellyfish Pictures  
47 Poland Street  
London W1F 7NB United Kingdom

will@jellyfishpictures.co.uk  
www.jellyfishpictures.co.uk



*Audio*  
**Mitar Subotic**

*Producer/Director*  
**Alastair Graham**

*Character Design*  
**Zoran Janjetov**  
**Goran Sudzuka**

*2D Animation & Compositing*  
**Tom Jackson**

*Animation Production*  
**Jellyfish Pictures**

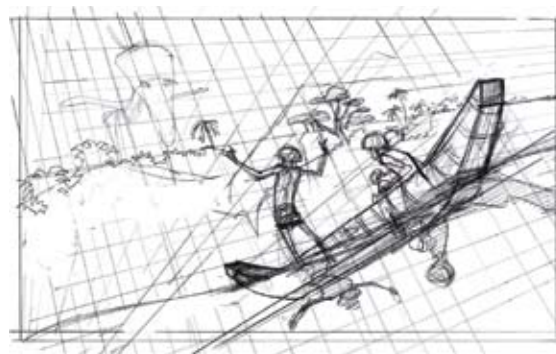
*Animation Director*  
**Philip Dobree**

*Animation Producer*  
**William Rockall**

*3D Animation*  
**Larry Ruppel**  
**Matt Lambert**  
**Sam Wright**

*Special Thanks*  
**Crammed Disks**

## PRE-PRODUCTION ARTWORK

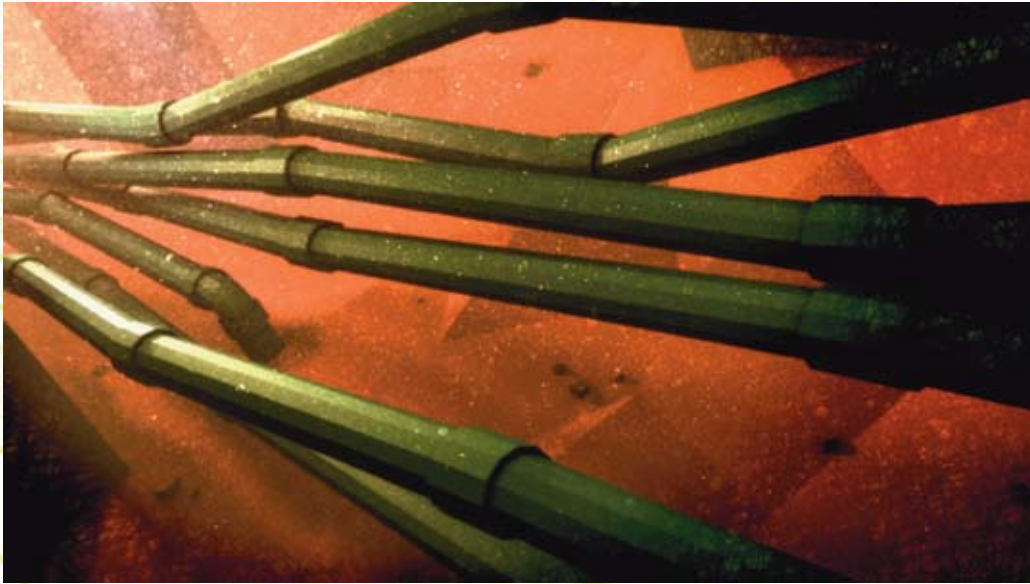


**Anargyros Sarafopoulos**  
NCCA  
Bournemouth University, Talbot Campus  
Fern Barrow  
Bournemouth BH12 5BB United Kingdom

asarafo@bournemouth.ac.uk

# Theros

ANIMATION THEATER



*Director*  
**Georgios Cherouvim**

*Producer*  
**Bournemouth University NCCA**

*Music*  
**Ioannis Cherouvim**

*Hardware & Software*  
**In-house software, Maya, Shake,  
Linux, Dell Workstations.**

*Animator*  
**Georgios Cherouvim**

*In-house Software*  
**Georgios Cherouvim**



**Anna Hildebrandt**  
 Animal Logic  
 Building 54 / FSA #19  
 Fox Studios Australia  
 38 Driver Avenue, Moore Park  
 Sydney 2021 Australia

annac@al.com.au  
 www.animallogic.com

# Toohey's "War of the Appliances"

ELECTRONIC THEATER



*Client*  
**Lion Nathan Australia**

*Marketing Director*  
**Margaret Zabel**

*Marketing Manager*  
**Ben Slocombe**

*Brand Manager*  
**Josh Gaudry**

*Agency*  
**BMF Advertising**

*Art Director*  
**Andrew Ostrom**

*Copywriter*  
**Andrew Petch**

*Executive Creative Director*  
**Warren Brown**

*Agency Producer*  
**Sue Stewart**

*Group Account Director*  
**Lisa Ramsey**

*Account Director*  
**James Cuff**

*Production Company*  
**Filmgraphics**

*Director*  
**Graeme Burfoot**

*Executive Producer*  
**Jude Lengel**

*Animation Director*  
**Simon O'Leary**

*Editor*  
**Sue Schweikert**

*VFX and Animation*  
**Animal Logic**

*Executive Producer*  
**Jacqui Newman**

*Producer*  
**Sarah Beard**

*Line Producer*  
**Pip Malone**

*Design and On-Set Supervisor*  
**Jane Milledge**

*Visual Effects Supervisor and 3D Lead*  
**Will Reichelt**

*3D Technical Director*  
**Clinton Downs**

*3D Animation Lead*  
**Michael Mellor**

*3D Model Lead*  
**Paul Braddock**

*3D Lighting Lead*  
**Andrew Lodge**

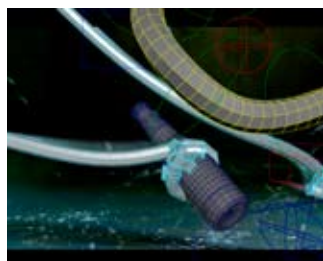
*3D Team*  
**Ben Falcone**  
**Alwyn Hunt**  
**Arild Anfinnsen**  
**Steve Beck**  
**Nathan Mitchell**  
**Paul Jackovich**  
**Brett Margules**  
**James McCallum**  
**Daniel Marum**

*Lead Composer*  
**Leoni Willis**

*Compositing Team*  
**Angus Wilson**  
**Mark Robinson**

*Software Developer*  
**Chris Bone**

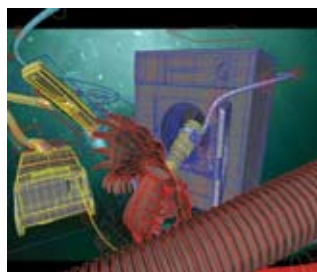
## PRE-PRODUCTION ARTWORK



3D vacuum cleaner and washing machine hoses were added to a plate with real water splashes and a rigged bottle. Animal Logic later augmented the shot with additional 3D water spray.



Final rendered/composited frame.



The most complex shot for the 3D team was choreographing and animating three characters fighting over a bottle in murky water in under 60 frames. A combination of 3D and 2D bubbles and underwater particulate matter was used to integrate them into the environment.



Final rendered/composited frame.



**Weeksang Chang**  
 GSAIM, Chung-Ang University  
 221 Heuksul-dong dongjak-ku  
 Seoul 156-756 South Korea

weeksang\_chang@hotmail.com  
 www.toyartist.net

# ToyArtist:papa&baby

ANIMATION THEATER



*Story and Storyboard*  
**Weeksang Chang**  
**Hyejin Kim**  
**Jaemin Lee**  
**Younghee Choi**  
**Donghyuk Choi**  
**Yongjoo Park**

*Character Design*  
**Hyejin Kim**  
**Weeksang Chang**

*BG and Production Design*  
**Yongjoo Park**

*Clay Sculpture*  
**Seongjae Lee**

*3D Character Modeling and Rigging*  
**Younghee Choi**

*Lead Animators*  
**Chigon Park**  
**Hyejin Kim**  
**Younghee Choi**  
**Donghyuk Choi**  
**Jaemin Lee**

*Lighting and Composition*  
**Jaemin Lee**

*Effects*  
**Donghyuk Choi**

*Cloth Simulation Software by*  
**FX Gear**

*Qualoth*  
**Kwangjin Choi**  
**Changhwan Lee**

*Sound and Music*  
**Stone Sound Works**

*Music*  
**Inwoo Hwang**

*Sound*  
**Jeongyoon Lim**

*Rendering by Digimas*  
**Sangyong Lee**

*Layout Comments*  
**Sukwon Park**

*Directed by*  
**Weeksang Chang**  
**Jaemin Lee**  
**Younghee Choi**  
**Donghyuk Choi**  
**Chigon Park**  
**Hyejin Kim**

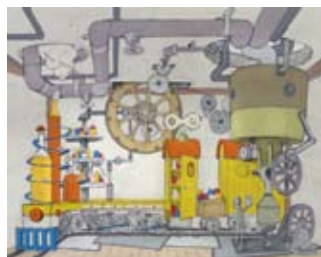
*Supervising Producer*  
**Weeksang Chang**

*Produced with support*  
*from the Korean Film Council*

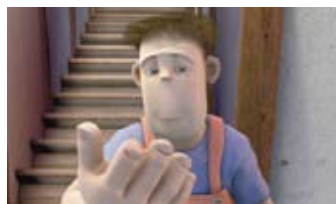
## PRE-PRODUCTION ARTWORK



Clay sculpture: papa



Background design: papa's desk



Still cut from production: papa



Background design: baby's playground

**Mary Ann Cabrera**  
 Method  
 1546 7th Street, Suite 200  
 Santa Monica, California 90401 USA

maryann@methodstudios.com

# Toyota "Meteor"

ELECTRONIC THEATER



*Lead 2D VFX Artist*  
**Mark Felt**

*Lead 3D VFX Artist*  
**John Han**

*2D VFX Artist*  
**Alex Kolasinski**

*3D VFX Artist*  
**Dan Dixon**

*Junior 2D VFX Artist*  
**Kyle Obley**  
**Miles Essmiller**

*Visual Effects Executive Producer*  
**Neysa Horsburgh**

*Visual Effects Producer*  
**Aaron Kisner**

*Director*  
**Baker Smith**

*Visual Effects Supervisor*  
**Gil Baron**

*Director of Photography*  
**Curtis Wehr**

*Agency*  
**Saatchi & Saatchi – LA**

*Executive Creative Director*  
**Harvey Marco**

*Associate Creative Director*  
**Dino Spadavecchia**

*Creative Director*  
**Steve Chavez**

*Copywriter*  
**Greg Farley**

*Production Company*  
**Harvest Films**

*Executive Producer*  
**Bonnie Goldfarb**

*Agency Executive Producer*  
**Damian Stevens**

*Producer*  
**Mala Vasan**

*Agency Producer*  
**Richard Bendetti**

*Editorial Company*  
**Lost Planet**

*Editor*  
**Paul Martinez**

*Audio Post*  
**Lime**

*Sound Design*  
**Mit Out Sound**

*Audio Mixer*  
**Loren Silber**

**Heebok Lee**  
Carnegie Mellon University  
29500 Heathercliff Road, #262  
Malibu, California 90265 USA

garin2@hotmail.com

# Tread Softly

ELECTRONIC THEATER



*Director*  
**Heebok Lee**

*Music*  
**Hajime Mizoguchi**  
**Yoko Kanno**  
**Escaflowne OST**

*Models*  
**Jennifer Anderson**  
**Alexandra Woolsey-Puffer**

*Voice*  
**David Winters**

*Poem*  
"He Wishes for the Clothes of  
Heaven," William Butler Yeats

*Design/Animation*  
**Heebok Lee**

*Fonts*  
**Mrs Eaves by Zuzana Licko**  
**Le Vengeur-Agaçant by Jean**  
**Jacques Tachdjian**

*Caligraphy*  
**Xin Xiangyang**

*Sponsored by School of Design,  
Carnegie Mellon University*

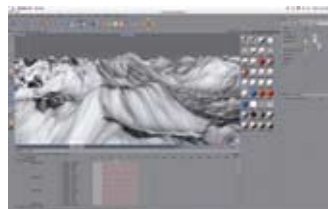
## PRE-PRODUCTION ARTWORK



3D model built from series of photographs



Sketches



3D terrain



Visual research



# Treibgut

ANIMATION THEATER

## CONTACT

**Institute of Animation, Visual Effects  
and Digital Postproduction**  
Filmakademie Baden-Württemberg  
Mathildenstrasse 20  
71638 Ludwigsburg, Germany

animationsinstitut@filmakademie.de  
www.animationsinstitut.de



*Cast*  
**Trude Knoerl**  
**Mareike Lindenmeyer**

*Director*  
**Ruediger Kaltenhaeuser**

*Producer*  
**Robin Sturm**

*Screenplay*  
**Ruediger Kaltenhaeuser**

*VFX*  
**Ruediger Kaltenhaeuser**

*Camera*  
**Armin Franzen**  
**Felix Poplawsky**

*Design*  
**Ruediger Kaltenhaeuser**

*Editor*  
**Nathalie Puerzer**

*Sound Design*  
**Jonathan Wulfes**

*Music*  
**Jonathan Wulfes**

*Production Company*  
**Filmakademie Baden-  
Württemberg, Institute of  
Animation, Visual Effects  
and Digital Postproduction**

## PRE-PRODUCTION ARTWORK



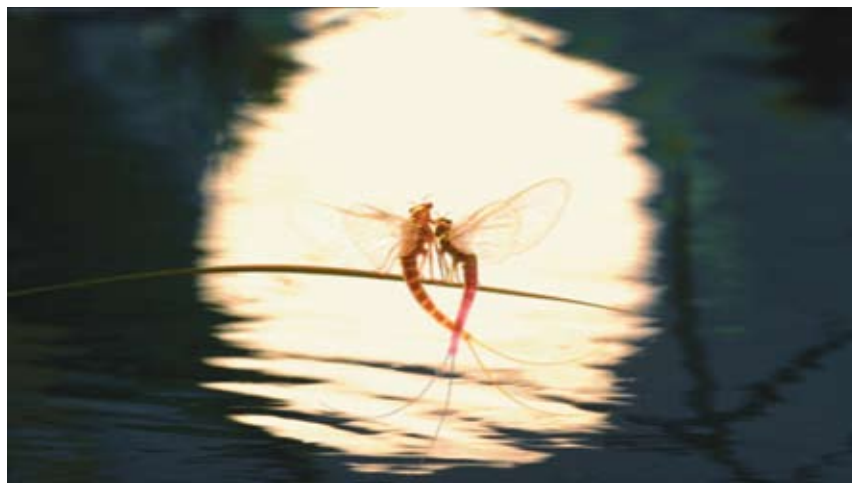


**Joanna Stevens**  
 Passion Pictures  
 3rd Floor, 33-34 Rathbone Place  
 London W1T 1JN United Kingdom

joanna@passion-pictures.com

# Vodafone "Mayfly"

ELECTRONIC THEATER



*Client*  
**Vodafone**

*Advertising Agency*  
**BBH**

*Creative Directors*  
**Nick Gill**  
**Ewan Paterson**

*Agency Producer*  
**Davud Karbassioun**

*Live Action Production*  
**Gorgeous Enterprises**

*Live Action Director*  
**Peter Thwaites**

*Live Action Producer*  
**Ben Link**

*Animation Production*  
**Passion Pictures**

*Animation Director*  
**Darren Walsh**

*Animation Producer*  
**Belinda Blacklock**

*Executive Producers*  
**Andrew Ruhemann**  
**Hugo Sands**

*CG Co-ordinator*  
**Jason Nicholas**

*CG Modelling*  
**Robin Konieczny**

*Texture Artist*  
**Matt Westrup**

*Rigging*  
**Morgan Evans**

*Art Director*  
**Stuart Hall**

*CG Lighting*  
**Nikos Gatos**  
**Axel Akesson**

*Lead Animator*  
**Matt Everitt**

*CG Animation*  
**Boris Kossmehl**  
**Patrick Collins**  
**Dominic Griffiths**  
**Tim Watts**  
**Catherine Elvidge**  
**Julian Howard**

*Technical Director*  
**Alan Jones**

*Special FX Supervisor*  
**Neil Riley**

*Editors*  
**Scot Crane @ The Quarry**  
**Jamie Foord @ Passion Pictures**

*Software*  
**XSI**  
**Mental Ray (rendering)**  
**Modo**  
**AfterEffects**  
**Body paint**  
**Photoshop**

*Compositing and Grading*  
**Absolute Post**

## PRE-PRODUCTION ARTWORK



# VW Golf GTI - Singing in the Rain

ANIMATION THEATER

**Sophie Trainor**  
The Moving Picture Company  
127 Wardour Street  
London W1F 0NL United Kingdom

sophie-t@moving-picture.com  
www.moving-picture.com



*Director*  
**NE-O**

*Production Company*  
**Stink**

*Producer*  
**Patrick Duroux**

*Editor*  
**Tim Thornton-Allan**  
at Marshall Street Editors

*Agency*  
**DDB London**

*Agency Producer*  
**Richard Chambers**

*Post Production Company*  
**The Moving Picture Company**

*Post Producer*  
**Graham Bird**

*VFX Supervisors*  
**Alex Lovejoy**  
**Christophe Allender**

*Inferno Artists*  
**Nico Cotta**  
**Ziggy Zigouras**  
**Dan Sanders**  
**Darren Christie**  
**Eileen Chang**

*Combustion Artists*  
**Giuliano Cavalli**  
**Daniel Adams**

*Telecine*  
**Jean-Clement Soret**

*Hardware*  
**Mac 5 Telecine, Spirit Datacine**

*Software*  
**Inferno, Flame, Combustion**

## PRE-PRODUCTION ARTWORK



**Stephanie Bruning**  
 Framestore CFC  
 9 Noel Street  
 London W1F 8GH  
 United Kingdom

steph.bruning@framestore-cfc.com  
 www.framestore-cfc.com

# Walking With Monsters

ANIMATION THEATER



*An Impossible Pictures Production  
 for BBC*

*Writers*  
**Tim Haines**  
**Chloe Leland**

*Producer/Director*  
**Chloe Leland (episodes 1 and 2)**  
**Tim Haines (3)**

*Executive Producer*  
**Tim Haines**

*Editor*  
**Andrew Wilks**

*Directors of Photography*  
**Pete Thorn**  
**Paul Jenkins**  
**Michael Pitts**

*Computer Animation/Post Production*  
**Framestore CFC**

*Animatronics*  
**Crawley Creatures**  
**Creature FX**

*Narrator*  
**Kenneth Branagh**

*Director of Computer Animation*  
**Mike Milne**

*VFX Supervisor*  
**Tim Greenwood**

*Animation Supervisor*  
**Neil Glasbey**

*CG Animators*  
**Pete Clayton**  
**Simon Thistlethwaite**  
**Nigel Rafter**  
**Angela King**  
**Anders Jensen**  
**Kate Hood**

*Technical Directors*  
**Darren Byford**  
**Theo Facey**  
**Adam Burnett**  
**Chi Kwong Lo**  
**Jenny Bichsel**

*Digital Paint Artists*  
**Daren Horley**  
**Virginie Degorgue**  
**Nathan Hughes**  
**Elsa Santos**

*CG Modelling*  
**Sarah Tosh**  
**Romain Segurado**  
**Ronan Carr Fanning**  
**Donald Pan**  
**Neehar Kohli**

*Cyberscanning*  
**Sean Varney**  
**Guy Hauldren**

*Composers*  
**George Roper**  
**Sirio Quintavalle**  
**Luke Drummond**  
**Astrid Busser-Casas**  
**Alberto Montanes**  
**Bruce Nelson**

*Executive Producers  
 of Computer Animation*  
**Fiona Walkinshaw**  
**William Sargent**

*Visual Effects Producer*  
**Joanna Nodwell**

*Visual Effects Coordinator*  
**Sophia Dixon**

*VFX Editor*  
**Carey Williams**



**Gabor Marinov**  
Digic Pictures  
Irinyi Jozsef u. 4-20. VI. em.  
Science Park  
H-1119 Budapest, Hungary

gabor.marinov@digicpictures.com  
www.digicpictures.com

# Warhammer: Mark of Chaos Intro Cinematic

ELECTRONIC THEATER



*Director*  
**Istvan Zorkoczy**

*Creative Producer*  
**Gabor Marinov**

*CG Supervisor*  
**Robert Kovacs**

*Art Director*  
**Peter Fendrik**

*Cinematic Advisor*  
**Gabor Szabo, HSC**

*CG Artists*  
**Laszlo Aszalos**  
**Akos Haszon**  
**Andras Ketzer**  
**Janos Orban**  
**Karoly Porkolab**  
**Kornel Ravadits**  
**Tamas Varga**

*Animators*  
**Gabor Horvath**  
**Agoston Princz**

*Technical Directors*  
**Szabolcs Horvath**  
**Peter Kovacs**  
**Andras Tarsoly**

*Original Music*  
**Tim Kelly**

*Orchestra*  
**Hungarian Film Orchestra**

*Sound Design*  
**Attila Tozser**

*Motion Capture*  
**Hoselito Duric**

*Stunts*  
**Tamas Gyongyossy**  
**Gabor Balogh**

*Tool Development*  
**Gabor Medinacz**  
**Gabor Tanay**

*System Administrator*  
**Gabor Kali**

CINERGI INTERACTIVE

*Executive Producer*  
**Alex Rabb**

GAMES WORKSHOP

*Producer*  
**Erik Mogensen**

*Black Library Author*  
**Gavin Thorpe**

NAMCO BANDAI

*Senior Producer*  
**Chris Wren**

*Producer*  
**Thomas Wu**

© Copyright Games Workshop Ltd. 2006.  
Games Workshop, Warhammer, Warhammer: Mark of Chaos and all associated names, insignia, marks, and images are either R, T and/or C Games Workshop Ltd 2000-2006. Used under license by NAMCO BANDAI Games America Inc. All Rights Reserved.

## PRE-PRODUCTION ARTWORK



Bloodthirster, Greater Daemon of Khorne character concept  
Artist: Janos Orban



Empire Soldiers of Stirland concept  
Artist: Akos Haszon



Chaos Warriors of Khorne concept  
Artist: Karoly Porkolab



Warrior Priest character concept  
Artist: Akos Haszon



# Wojna

ELECTRONIC THEATER



*Director*  
Agnieszka Kruczek

*Producer*  
Andreas Perzl

*Sound and Music*  
Vladimir Martinka

*Production Company*  
Filmakademie Baden-Württemberg, Institute of Animation, Visual Effects and Digital Postproduction

## PRE-PRODUCTION ARTWORK





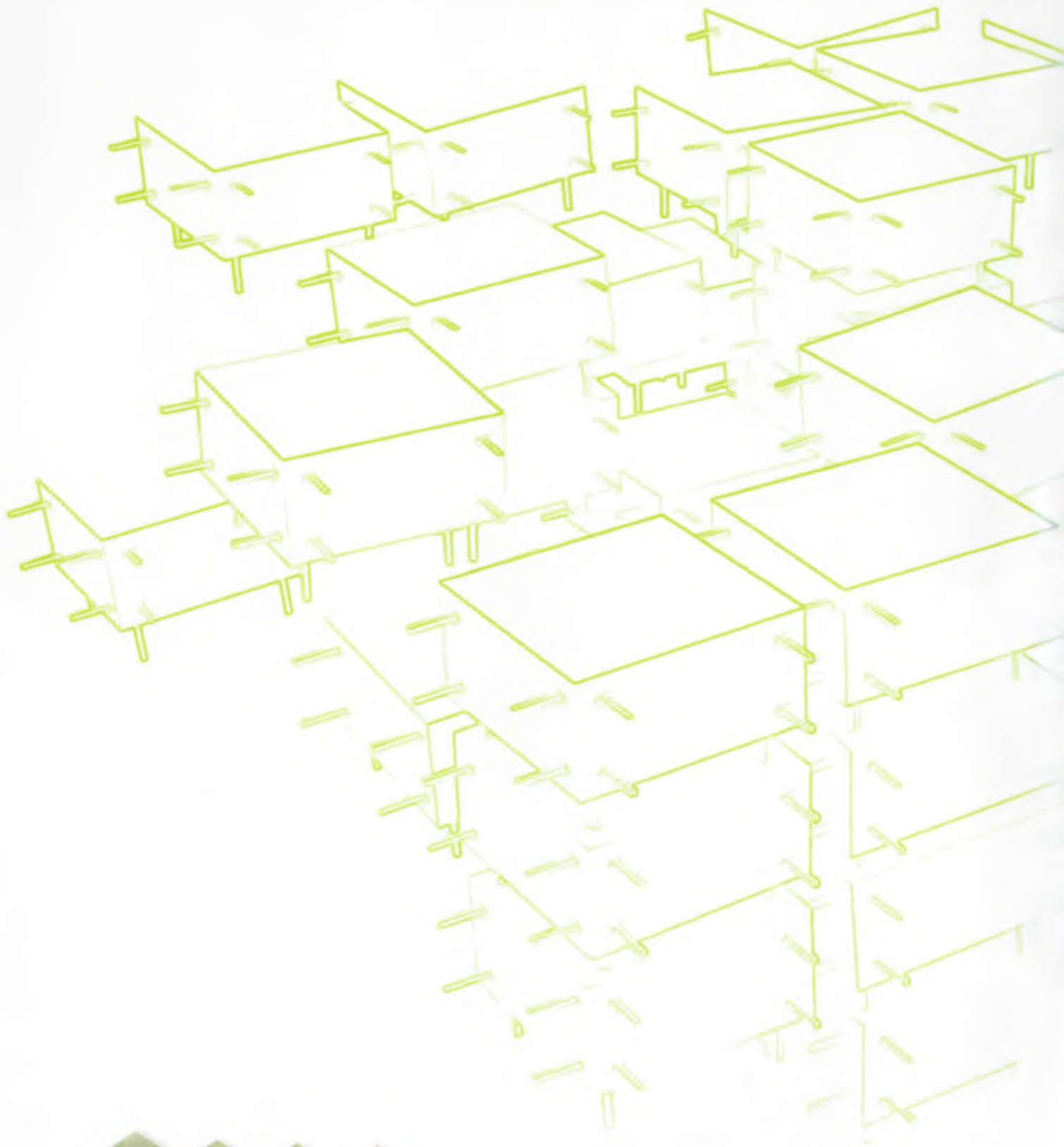












Sponsored by ACM**SIGGRAPH**