

Cultivating Creative Thinking: Stories from the Field

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Abstract

Learning to think and work across disciplines is an important 21st century skill for organizations and individuals. For decades, SIGGRAPH has been bringing together computer scientists and artists, serving as a corpus colossum for these so-called left-brain and right brain communities. Creative collaborations within productive teams have been critical for many success stories in our industry. Cultivating cross-disciplinary thinking within an organization is hard to achieve given the traditional tendency to separate the arts and sciences in the culture at large. Creative thinking on the part of an individual can spark invention and lead innovation. The ability to see connections, articulate a vision and approach old problems from new angles holds the potential to tackle larger intractable challenges or spawn new industries. This panel convenes notable exemplary individuals from industry and academia to share first hand accounts for how they do what they do and what they see as the most importance factors, organizationally and individually, to achieve creative excellence.

This panel, including artists, engineers, patent-holders, inventors, and academics, will reflect on personal experiences to address a variety of questions personal and grand. How do we set up organizations and interactions to enable creativity to develop and to work effectively as creative communities? How do you recognize, assess and nurture creativity in an individual? What educational experiences best prepare a rising generation to be an innovative and creative workforce? What lessons learned in your own domains might be applied to other problem domains? What, if any, political, cultural, and educational changes would you wish for to facilitate your work? Panel members will be asked to respond to topics such as these, to share personal experiences regarding their own creative process and to respond to attendees inquiries in a question and answer portion at the end of the panel.

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1 Panelists

Paul Dietz creates novel interactive systems. He has held senior research positions at Walt Disney Imagineering Research and Development and Mitsubishi Electric Research Labs, and is currently with Microsoft Research. Products based on his work include Pal Mickey (an interac-

tive plush toy), DiamondTouch (an early multitouch interface widely adopted by researchers), and the ultra-thin, pressure-sensitive Touch Cover keyboards for Microsoft Surface tablets. Recent projects include investigations into latency in interactive systems and the Animatronics Workshop building robotic shows with kids. Dietz holds a Ph.D. and Master's from Carnegie Mellon University, and a Bachelor's degree from the Massachusetts Institute of Technology, all in electrical engineering.

Mk Haley is a Research Producer and works in Tech Transfer with the Disney Research, having worked with Disney for 20 years across Imagineering, Research and Development, Television and other groups in a variety of creative, technical, and operations roles. She was Full-Time Faculty at Carnegie Mellon University where she served as Associate Executive Producer of the Entertainment Technology Center. She has contributed to books on the creative process with Walt Disney Imagineering, and patented work in the area of user interfaces. MK served as Chair for the 2013 SIGGRAPH Conference.

Roger Malina is Distinguished Professor of Art and Technology, and Professor of Physics, at the University of Texas at Dallas where he is the Associate Director of ATEC. He has been Executive Editor of the Leonardo Publications at MIT Press since 1982. A space scientist, he served as director of the Observatoire Astronomique de Marseille Provence and NASA researcher. Recently, he chaired the NSF study: Steps to an Ecology of Networked Knowledge and Innovation: Enabling new forms of collaboration among sciences, engineering, arts, and design which identified key mechanisms for enabling new forms of collaborations between the arts and sciences.

Ramesh Raskar joined the MIT Media Lab from Mitsubishi Electric Research Laboratories in 2008 as head of the Camera Culture research group. His research spans computational photography, inverse problems in imaging, and human-computer interaction. Numerous awards include the TR100 Award from Technology Review (presented to top innovators under the age of 35), the Global Indus Technovator Award (instituted at MIT to recognize the top 20 Indian technology innovators worldwide), a Sloan Research Fellowship, the DARPA Young Faculty award and four Mitsubishi Electric Invention Awards. He holds over 40 US patents. He is co-authoring a book on computational photography.

2 Moderator

Jennifer (Ginger) Alford works with multiple institutions to develop computer science and engineering educational programs as a Director at both Trinity Valley School and the Fort Worth Museum of Science and History. She has a BS in math from Univ. of Texas, a MS in computer science from Texas A & M Univ., a PhD in electrical and computer engineering from the Univ. of Iowa and 25 years of image processing experience as developer, researcher and IP consultant. She is the Education Liaison for the 2014 SIGGRAPH Conference Committee.

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