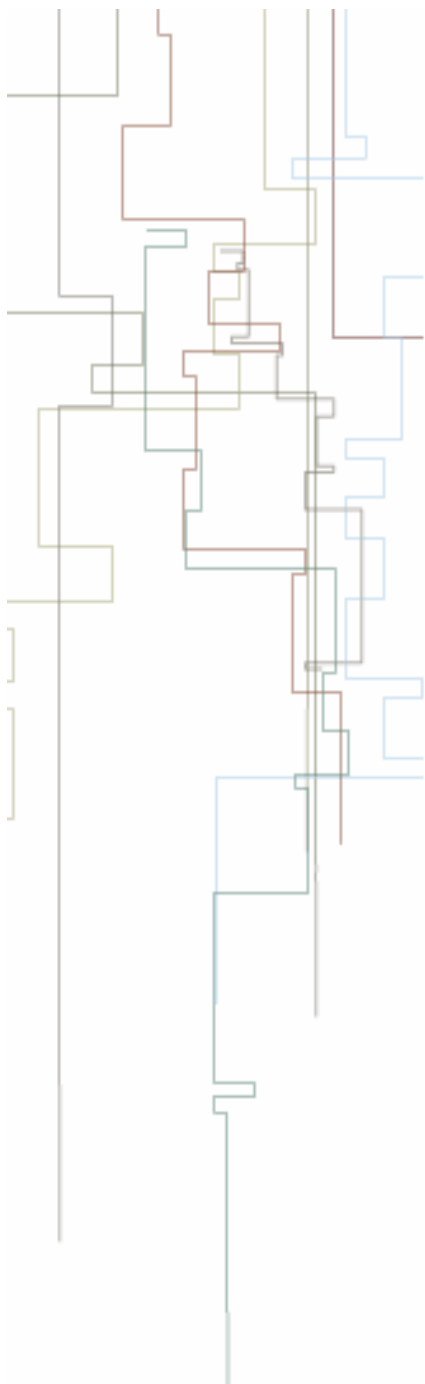


6th Creativity & Cognition Conference

Seeding Creativity: Tools, Media, and Environments

June 13-15, 2007, Jurys Hotel, Washington, DC USA



CC2007

FOSTERING A DEEPER UNDERSTANDING OF CREATIVE
PROCESSES AND IMPROVED SUPPORT TOOLS TO MAKE
MORE PEOPLE • MORE CREATIVE • MORE OF THE TIME

SPONSORED BY:
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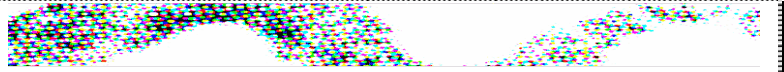


IN COOPERATION WITH:
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LOOK FOR ARTICLES FROM CC2007 IN THESE JOURNALS:

- ▶ *COMMUNICATIONS OF ACM*
COVER ARTICLE DECEMBER 2007: BEN SHNEIDERMAN
- ▶ *INTERNATIONAL JOURNAL OF HUMAN COMPUTER INTERACTION*
GUEST EDITORS: LINDA CANDY AND TOM HEWETT
- ▶ *LEONARDO*
GUEST EDITORS: ELISA GIACCARDI AND LINDA CANDY
- ▶ *LEONARDO TRANSACTIONS*
EDITOR: ERNEST EDMONDS WITH PAMELA JENNINGS

Note that the Jurys Hotel has free wireless internet connectivity for your use during the conference.

The Creativity and Cognition Series: Yesterday and Today

The Creativity & Cognition Conference series began in 1993 and has evolved into a lively multidisciplinary event combining research and practice. Rigorous research is expanding as theoretic foundations are emerging and goals become more well-defined. Successful practice manifests itself in a growing array of creativity support tools for discovery and composition by software and other engineers, diverse scientists, product and graphic designers, architects, new media artists, musicians, educators, students, and many others. We believe that deeper understanding of creative processes and improved support tools can make more people more creative more of the time.

Creativity & Cognition 2007 is focused on the theme of cultivating and sustaining creativity: understanding how to design and evaluate computational support tools, digital media, and socio-technical environments that not only empower our creative processes and abilities, but that also encourage and nurture creative mindsets and lifestyles.

Our conference introduces an interdisciplinary Graduate Student Symposium which brings together 25 students active in creativity projects across the disciplines. Their leaders and mentors will facilitate a lively discussion aimed at promoting rigorous academic research and innovative projects. This symposium is supported by grants from the U.S. National Science Foundation and the European EQUATOR project. Our 312-page proceedings (available from ACM Press) includes the papers, plus descriptions of the demonstrations, posters, workshops, tutorials, and Graduate Student Symposium projects.

Program Chairs:

Gerhard Fischer, Elisa Giaccardi, Mike Eisenberg, *University of Colorado, Boulder*

Dear Creativity & Cognition Attendees,

On behalf of the entire organizing committee, I'm delighted to welcome you to Washington, DC for our conference. We have an intellectually stimulating set of events, beginning with a day of tutorials, workshops, and a Graduate Student Symposium. Then our main conference begins with a walk to our evening reception at the National Academy of Sciences Building that includes a major art exhibit and a panel discussion about the nature of creativity across disciplines.

The main conference presents two keynote speakers, 24 carefully reviewed papers, and a set of posters plus demonstrations. We'll have time for discussions over breakfast, during breaks, at lunch, and in the evenings.

Our second evening event includes a reception at the Jurys Hotel followed by another nice walk through Washington, DC, to the Corcoran Gallery of Art, where we will view the blockbuster exhibit "Modernism: Designing a New World, 1914 - 1939".

This conference series has formed a community with a shared vision about the opportunity to develop user interfaces, composition tools, and social environments that will enable more people to be more creative more often. Your participation helps promote research on technologies that support individual, group, and social creativity across the disciplines. Your ideas help shape the theories and principles that guide future research.

This noble quest enriches us all. I look forward to provocative presentations, lively discussions, and stimulating ideas.

Sincerely...Ben Shneiderman, General Chair

Ben Shneiderman is a Professor in the Department of Computer Science, Founding Director (1983-2000) of the Human-Computer Interaction Laboratory, and Member of the Institute for Advanced Computer Studies at the University of Maryland at College Park.



KEYNOTE SPEAKERS

Mitchel Resnick, *MIT Media Lab* Sowing the Seeds for a More Creative Society



In the 1980s, many people talked about the transition from the "Industrial Society" to the "Information Society." In the 1990s, people began to talk about the "Knowledge Society." I prefer a different conception: the "Creative Society." As I see it, success in the future (for individuals, for communities, for companies, for nations as a whole) will be based not on what we know or how much we know, but on our ability to think and act creatively. Unfortunately, current educational practices are woefully inadequate. In this talk, I will discuss new technologies and new educational initiatives developed specifically to help children learn to design, invent, and express themselves creatively -- so that they are prepared for life in the Creative Society.

***Bio.** Mitchel Resnick is Professor of Learning Research at the MIT Media Laboratory, where he develops new technologies and activities that engage children and teens in creative learning experiences. Resnick's research group developed ideas and technologies underlying the award-winning LEGO Mindstorms and PicoCricket construction kits. He co-founded the Computer Clubhouse project, a network of after-school centers where youth from low-income communities learn to express themselves creatively with new technologies. Resnick earned a BA in physics at Princeton University (1978), and MS and PhD degrees in computer science at MIT (1988, 1992). Resnick has consulted throughout the world on the use of computers in education. He is author of Turtles, Termites, and Traffic Jams (1994), co-editor of Constructionism in Practice (1996), and co-author of Adventures in Modeling (2001).*

Thecla Schiphorst, *Simon Fraser University* Really, Really Small: the Palpability of the Invisible

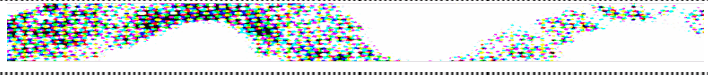
pal·pa·ble adj

1. so **intense** as to be almost able to be felt physically
2. obvious or **easily observed**
3. able to be **felt by the hands**



Human beings need to connect: to themselves, to each other, and to the objects of their affection in the world in which they live. We know that without touch, an infant will die, without affection the human body's necessary neuro-physiological development is deeply impaired. We also know that our technologies are becoming smaller and more powerful. So what does

KEYNOTE SPEAKERS continued



Maslow's Hierarchy have to do with Moore's Law? Mobility, connectivity, invisibility, intimacy are not only key-words, but are becoming key-content, and even key-process. What was the search-key is becoming the sought after-object of our desire: our experience of ourselves through our technologies.

As we live with our technologies, and the experience of ourselves through our technologies, we develop attributes with which to design. Palpable, intense, easily observed, able to be felt by the hands: these attributes describe the meaning-making process in which we engage. But the face of our technologies is dissolving before our very eyes.

For example, research in smart fabrics technologies includes the development of flexible circuits and flexible computing embedded within textiles and fabric polymers. Within a handful of years the set-top box, the portable computer, the cell-phone, the game controller, and the i-pod will no longer be physical necessities: form factor will become an imaginative choice, no longer a physical constraint. Shape-shifting will no longer be science-fiction but will become a feature set in wireless applications.

As 'intensity' is a descriptor of quality, and sensory qualities are measured in human experience, so our own data, our own body states are a fluid mapping of qualities of experience that may appear invisible, but remain material, and are able to be felt by the hands.

This talk will describe my research in embodied design and embodied engineering. Based in somatics and performance, I will share exploratory design techniques that model novel approaches to gestural interaction, tactile inputs, and movement interfaces in the context of expressivity, wearability, the return of the small, and the palpability of the invisible.

Bio. *Thecla Schiphorst is a Media Artist, and an Associate Professor in the School of Interactive Arts and Technology at Simon Fraser University in Vancouver, Canada. She is the Director of the whisper[s] research group, an acronym for: wearable, handheld, intimate, sensory, personal, expectant, responsive systems. Her formal education and training in computing and dance form the interdisciplinary basis of her work, which integrates experiential physical practices and methodologies with computational models of representation. She is a member of the original design team that developed Life Forms, the computer compositional tool for choreography and has worked with Merce Cunningham since 1990 supporting his creation of new dance with the computer. She is the recipient of the 1998 PetroCanada award in New Media awarded biennially to a Canadian artist, by the Canada Council for the Arts. Her media art installations have been exhibited internationally in Europe, Canada, the United States and Asia. Her current research is centered in embodied design and engineering, crossing boundaries between somatics, physical interaction and performance.*

WEDNESDAY, JUNE 13: SCHEDULE

When	What	Where
7:30 – 5:30	Registration/Information	Outside Doyle
8:00 – 9:00	Continental Breakfast	Doyle A
9:00 – 5:00	Graduate Student Symposium	Burlington
	Tutorial: “Understanding and Evaluating Creativity”	Doyle B
	Workshop: “Tools in Support of Creative Collaboration”	Westbury A
	Workshop: “Design Creativity”	Berkley*
	Workshop: “Supporting Creative Acts Beyond Dissemination”	Westbury B&C
9:00 – 12:30	Tutorial: “Computer Art: Creativity and Computability”	Clifton Ford*
12:30 – 1:30	Lunch	Doyle A
1:30 – 5:00	Tutorial: “Visualization and the Art of Metaphor”	Clifton Ford*
5:00 – 6:00	Follow student guides in red shirts for 1 mile walk or board charter bus in front of hotel for National Academy of Sciences (see map on back cover)	
6:00 – 8:00	Reception and Opening of Art Exhibit (see below for details)	Academy of Sciences
8:00 – 9:00	Panel Discussion “Bridging Art and Science with Creativity Support Tools”	Academy of Sciences
9:00	Bus returns to hotel and guides will lead return walk	

*The Clifton Ford and Berkley rooms are on the second floor of the hotel

Half-hour breaks will be at 10:30 and 3:00 in the Doyle A room

Evening at the National Academies of Sciences Building

Wednesday, June 13, 6:00-9:00 PM

Dinner Reception ▼ Registration ▼ Art Exhibit ▼ Panel Discussion

Trumpet Fanfare by Roger Dannenberg

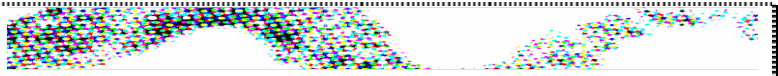
Panel Discussion: Bridging Art and Science with Creativity Support Tools

Leaders of the science, technology, design and art worlds will examine how creativity support tools are changing the nature of creativity in their fields. They are invited to reflect on how creative processes are similar across disciplines...or not.

Moderated by: Ben Shneiderman

Panelists:

- Rita Colwell, *Professor, University of Maryland, former Director, U.S. National Science Foundation*
- Sara Diamond, *President, Ontario College of Art & Design, Canada*
- Paul Greenhalgh, *Director, Corcoran Gallery of Art, Washington, USA*
- William Wulf, *President, National Academy of Engineering, USA*



Chair: Tom Hewett, Drexel University

Understanding and Evaluating Creativity [Wednesday 9:00-5:00, Doyle B Room]

Linda Candy and Zafer Bilda, UTS Sydney, Australia

Key Questions : How can we contribute to enhancing human creativity? What do we need to know that will help design support tools for creativity? How can the interaction designer assess existing tools and systems to see how they may be used or modified to support the creative process? How can we better understand creativity and evaluate the tools for creativity support by analytical methods? These are the key questions that we aim to address.

Benefits : You will learn about two areas of knowledge: creativity research and applications to interactive system design. This will provide you with an understanding of the significance of creativity for interaction design and to give guidance about design and evaluation of systems with respect to their role in creativity support. You will also be provided with tools and methods for analyzing and evaluating situations in which creative engagement and interaction may be taking place.

Computer Art: Creativity and Computability [Wednesday 9:00-12:30, Clifton Ford, 2nd Floor]

Frieder Nake, University of Bremen, Germany

Key Questions : What lessons can we learn from studying the history and some of the techniques of computer art? Why does computer art emerge in the mid 1960s, not earlier, nor later? What are important places where it first happened, and how do they differ? What is the role of randomness for computer art and, therefore, for creative behavior? How are intuition and creativity related? What is similar and different in the development of computer art in the US and in Europe? How has the art world reacted to the emergence of digital art?

Benefits : Participants will gain insight into an astonishing phenomenon that emerged more than forty years ago from a cross-over of algorithmic and artistic thinking. They will be thrilled by observing how, under totally different conditions of technology, constructive and creative principles got applied that are still valid even though technology has leaped forward in huge jumps. The study of computer art will provide an understanding of the ground-breaking paradigm shift from computability to interactivity, which goes beyond the limits of computer art. The main benefit should be a deep feeling for the beauty of a discipline of computing, and for the precision of the experience of artistic creation.

Visualization and the Art of Metaphor [Wednesday 1:30-5:00 Clifton Ford, 2nd Floor]

Jack Ox, University of New Mexico, USA

Key Questions : What is visualization? Why do we need it, and what is the explanation for the growing popularity of the discipline of visualization? Shouldn't we also consider other senses as possibilities in understanding complex bodies of data? How about sonification, or even better, musification? Is the word perceptualization better to use than visualization because it takes all of the senses into consideration? What is reification? Do you think that visual languages, which are learned, are as effective as "natural" or "archetypal" languages?

Benefits : You will learn to think differently about the range of metaphors and begin to evaluate the various ways that different professions use them. In your own project of the day you will have the opportunity to be influenced by the historical and current survey brought together in this tutorial. Attendees that are already using visualization methods in their work can benefit from this tutorial because they will be exposed to different ways of visualization as it provides an environment to improve communication skills and the opportunity to acquire visual literacy.

WORKSHOPS

Chair: Michael Terry, *University of Waterloo*

Tools in Support of Creative Collaboration [Wednesday 9:00–5:00, Westbury A]

Organizers: Piotr Adamczyk, Kevin Hamilton, Michael Twidale, Brian Bailey (UIUC)

Full Details: <http://orchid.cs.uiuc.edu/CreativeCollaboration/>

Overview

Collaboration that involves a diverse set of perspectives is more likely to generate novel ideas. Creative groups rely on effective communication across disciplinary boundaries while maintaining an atmosphere that preserves distinctive contributions. Given the persistent interest in creating teams of artists, designers, engineers, and scientists, tools that effectively represent practice and support creative engagement can make a significant contribution.

This one-day workshop will focus on the design and evaluation of such tools. The scope will include common issues in creative collaborative practice: (1) Social Aspects of Tools and Tool Use (e.g. should collaborative support tools include a degree of awareness of the social roles present in teams), and (2) Artifacts in Creative Collaboration (e.g. how can tools better embed disciplinary concepts in artifacts or the communication process).

Audience

Our intended audience includes researchers in HCI and CSCW, industry experts in collaborative or social software, designers practiced in art/science collaboration, and artists whose work engages with disciplinary boundaries.

Design Creativity [Wednesday 9:00–5:00, Berkley Room, 2nd Floor]

Organizers: Yong Se Kim (Creative Design and Intelligent Tutoring Systems Research Center, Sungkyunkwan University, Korea)

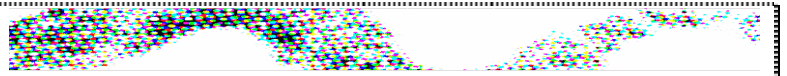
Toshiharu Taura (Department of Mechanical Engineering, Kobe University, Japan)

Full Details: <http://credits.skku.edu/credits/dcworkshop07.html>

Overview

This one-day workshop on design creativity will discuss the state of the art of understanding on design creativity and identify directions for research on creativity in design and for design creativity education. This workshop is to be the first of two workshops with about two months of time difference. The intent is that this workshop will focus on collaboratively identifying issues on design creativity research and education and to form subgroups to address the issues. The second workshop will discuss subgroup findings on design creativity research and education issues. This workshop will be organized with the Creativity and Cognition Conference 2007, and the second one will be organized with International Conference on Engineering Design (<http://www.iced07.org>) to be held in Paris, France in August 2007.

This workshop will include an invited presentation to bring external stimulus on the workshop. Issues presentations by participants with accepted position papers of 4-6 pages based on review of the program committee will be followed by discussions by all participants of the workshop, including both issues presenters and general participants.



Supporting Creative Acts Beyond Dissemination [Wednesday 9:00–5:00, Westbury B&C Room]

Organizers: David A. Shamma (Yahoo! Research Berkeley)

Ryan Shaw (iSchool, UC Berkeley & Yahoo! Research Berkeley)

Full Details: <http://timetags.research.yahoo.com/creativity/>

This workshop is sponsored by Yahoo! Research Berkeley

Overview

Artists, philosophers, and scientists have been developing conceptual models of creativity for centuries. Yet developers of media art and technology are often accused of interfering with ‘the creative process’ when they rely on such formalisms to guide their designs. This workshop will look at creativity as a collection of conceptual models for the construction and dissemination of media arts, music, performance, and tools. We are interested in conceptualizations that explicitly or implicitly inform the system design and may be realized in part or whole in a system. These conceptualizations may have originated with philosophers (e.g. Hegel and Dewey), artists (e.g. Kandinsky and Duchamp), or scientists looking at cognitive, social, and computational aspects of creativity.

Furthermore, with new media, the distinctions between creator-centric and experiencer-centric creativity is blurring. Practically, this blurring results in an endlessly evolving stream of artifacts that are “finished” when their participatory roles are fulfilled. This raises questions about where the creative act begins and ends and has implications for the design of tools to support creative work, as well as, for the creative work itself, from art installations where the participants can shape the work’s meaning and purpose to new educational tools and environments that seek to introduce learners to creative collaboration. This conflation of the role of creator and experiencer forces us to reconsider models that cleanly separate the two and to seek out new models in which the “user” takes on a creative role, not just an interpretive or interactive one.

This workshop presents the design of several contemporary creative models for new media in theory and in practice. The primary goal is to foster multidisciplinary communication and collaboration by discussing implementable models of creative acts. The workshop will provide an opportunity to present and discuss:

- New models and novel combinations of existing models
- Critiques of existing models
- Examples (successful or unsuccessful) of applications of creative models
- Applications and/or installations which embed or embody specific models for creativity
- Qualitative studies of creative processes

The focus will be on bridging creative theory and creative practice with practical applications for creative arts and technology, from installations to the tools that support them. Along the way, we hope to develop new models for understanding creative processes in which participants and creators are one and the same.

THURSDAY, JUNE 14: SCHEDULE

When	What	Where
7:30 – 5:30	Registration/Information	Outside Doyle
7:30 – 8:30	Poster Setup	Burlington
7:30 – 8:30	Continental Breakfast	Doyle
8:30 – 10:00	Opening Session Uniting Behind an Idea: User Interfaces for Creativity and Cognition Ben Shneiderman, <i>General Conference Chair</i> The History of Creativity & Cognition Ernest Edmonds, <i>Creativity & Cognition Studios</i> Why Creativity? Gerhard Fischer, <i>Conference Program Co-Chair</i> Keynote Lecture: Sowing the Seeds for a More Creative Society Mitchel Resnick, <i>MIT Media Lab</i>	Doyle
10:00 – 10:30	Snack Break	
10:30 – 12:00	Session 1: Education	Doyle
12:00 – 2:00	Lunch* & Posters/Demos (see page 13 for listing)	Burlington OR Restaurant*
2:00 – 3:30	Session 2: Collaboration Models	Doyle
3:30 – 4:00	Snack Break	Doyle
4:00 – 5:30	Session 3: Creating and Sharing	Doyle
5:30 – 7:00	Reception Entrance to patio is from the Burlington room. Reception will be held in the Doyle room if weather is inclement	Patio
6:30 – 7:30	Buses leave for Corcoran Gallery from front of hotel or you may follow Guides in red shirts that will lead the 1-mile walk	
7:00 – 9:00	Exhibit: "Modernism: Designing a New World: 1914-1939" Your badge is your entrance ticket. Audio tours available for \$4 at the desk.	Corcoran
9:00	Buses return to hotel	

*For lunch Thursday and Friday, half of the attendees will go out for lunch while the other half will view the demonstrations and posters and eat a box lunch in the hotel:

- If you have a **green card** in your badge holder, today you will eat lunch out at the *Buca di Beppo* restaurant. Student guides in red shirts will lead this short walk.
- If you have a **red card** in your badge holder, today you will view demonstrations and posters in the Burlington Room where you will pick up a box lunch to enjoy on the patio, at the park in Dupont circle, or in the Doyle room.

You are welcome to trade cards with someone else to have lunch with another attendee, but you must have the appropriate card for the box lunch or the restaurant.

THURSDAY, JUNE 14: PAPERS

Opening Session: 8:30 – 10:00 AM

Session 1 – Education

Time: Thursday, June 14, 10:30 – 12:00 AM

Chair: Edward Shanken, *Savannah College of Art and Design*

1. **Surprising Creativity: A Cognitive Framework for Interactive Exhibits Designed for Children**
S. Zheng, M. Adam, *Coventry School of Art and Design*
A. Bromage, *Coventry University*
S. AR Scrivener, *Chelsea College of Art and Design*
2. **Environments for Creativity – A Lab for Making Things**
E. YL Do, *Georgia Institute of Technology*
M. D Gross, *Carnegie Mellon University*
3. **Group Creativity in Virtual Math Teams: Interactional Mechanisms for Referencing, Remembering and Bridging**
J. Sarmiento, G. Stahl, *College of Information Science and Technology, Philadelphia*
4. **Propagating Collaboration: An Instructional Methodology for Artists and Engineers**
E. Ayiter, S. Balcisoy, M. Germen, S. Artut, *Sabanci University, Istanbul*

Session 2 – Collaboration Models

Time: Thursday, June 14, 2:00 – 3:30 PM

Chair: John C. Thomas, *IBM Research*

1. **An In-depth Case Study of Art-Technology Collaboration**
Y. Zhang, L. Candy, *University of Technology, Sydney*
2. **Using Empathy to Research Creativity: Collaborative Investigations into Distributed Digital Textile Art and Design Practice**
C. Treadaway, *University of Wales Institute Cardiff*
3. **Performative Roles of Materiality for Collective Creativity**
G. Jacucci, *University of Helsinki*
I. Wagner, *Vienna University of Technology*
4. **Exact Imagination and Distributed Creativity: A Lesson from the History of Animation**
M. Century, *Rensselaer Polytechnic Institute*

Session 3 – Creating and Sharing

Time: Thursday, June 14, 4:00 – 5:30 PM

Chair: Ron Wakkary, *Simon Fraser University*

1. **Spinning Stories: The Development of the *Small Histories* Project as an Online Facilitator of Multiple Life Stories**
S. Schutt, *Victoria University and RMIT University, Melbourne*
2. **Prodsage: Towards a Broader Framework for User-Led Content Creation**
A. Bruns, *Queensland University of Technology*
3. **Media for Knowledge Creation and Dissemination: Semantic Model and Narrations for a New Accessibility to Cultural Heritage**
S. Valtolina, P. Mussio, P. Mazzoleni, S. Franzoni, G. Bagnasco Gianni, M. Geroli, C. Ridi, *Università degli Studi di Milano*
4. **Promoting Emergence in Information Discovery by Representing Collections with Composition**
A. Kerne, E. Koh, S. M Smith, H. Choi, R. Graeber, A. Webb, *Texas A&M University*

FRIDAY, JUNE 15: SCHEDULE

When	What	Where
7:30 – 5:30	Registration/Information	Outside Doyle
7:30 – 8:30	Continental Breakfast	Doyle
8:30 – 10:00	Session 4: Tools, Media, and Environments	Doyle
10:00 – 10:30	Snack Break	Doyle
10:30 – 12:00	Session 5: Design Methods	Doyle
12:00 – 2:00	Lunch* & Posters/Demos (see page 13 for listing)	Burlington OR Restaurant*
2:00 – 3:30	Session 6: Music	Doyle
3:30 – 4:00	Snack Break	Doyle
3:30 – 4:00	Poster Removal	Burlington
4:00 – 5:30	Closing Session What We Have Heard Elisa Giaccardi, <i>Conference Program Co-Chair</i> Keynote Lecture: Really, Really Small: The Palpability of the Invisible Thecla Schiphorst, <i>Simon Fraser University</i> Closing Remarks Ben Shneiderman, <i>General Conference Chair</i> Ernest Edmonds, <i>Creativity & Cognition Studios</i>	Doyle

*Today, for lunch, you will do the opposite of what you did yesterday:

- If you have a **red card** in your badge holder, today you will eat lunch out at the *Buca di Beppo* restaurant. Student guides in red shirts will lead this short walk.
- If you have a **green card** in your badge holder, today you will view demos/posters in the Burlington Room where you will pick up a box lunch to enjoy on the patio, at the park in Dupont circle or in the Doyle room.

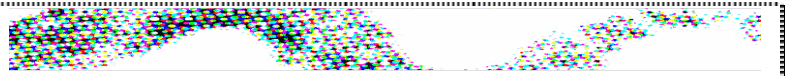
CREATIVIT: U.S. NATIONAL SCIENCE FOUNDATION PROMOTES RESEARCH ON CREATIVITY

IN JUNE 2005, THE U.S. NATIONAL SCIENCE FOUNDATION SPONSORED A WORKSHOP FOR 25 RESEARCHERS ON THE TOPIC OF CREATIVITY SUPPORT TOOLS. ITS 80-PAGE REPORT DESCRIBES THE TOPIC, OFFERS DESIGN PRINCIPLES, DISCUSSES NOVEL EMPIRICAL METHODS, AND MAKES RECOMMENDATIONS (SEE FULL REPORT AT: [HTTP://WWW.CS.UMD.EDU/HCIL/CST](http://www.cs.umd.edu/hcil/cst)).

THE NSF DEVELOPED A PROGRAM ON CREATIVEIT: [HTTP://WWW.NSF.GOV/CISE/FUNDING/CREATIVEIT.JSP](http://www.nsf.gov/cise/funding/creativeit.jsp) ORGANIZED A FURTHER WORKSHOP: [HTTP://SWIKI.CS.COLORADO.EDU:3232/CREATIVIT](http://swiki.cs.colorado.edu:3232/CREATIVIT) AND THEN IN SPRING 2007 ANNOUNCED A FUNDING PROGRAM: [HTTP://WWW.NSF.GOV/PUBLICATIONS/PUB_SUMM.JSP?ODS_KEY=NSF07562](http://www.nsf.gov/publications/pub_summ.jsp?ods_key=NSF07562)

THE GOAL OF THE CREATIVEIT PROGRAM IS TO FUND RESEARCH THAT FOCUSES ON CREATIVITY TO PRODUCE SIMULTANEOUS ADVANCES IN BOTH COMPUTER SCIENCE AND CREATIVE COGNITION, CREATIVITY SUPPORT TOOLS, ENGINEERING DESIGN OR SCIENCE.

FRIDAY, JUNE 15: PAPERS



Session 4 – Tools, Media and Environments

Time: Friday, June 15, 8:30 – 10:00 AM

Chair: Kumiyo Nakakoji, *University of Tokyo*

1. **Tool Support for Creativity using Externalizations**
A. Warr, E. O'Neill, *University of Bath*
2. **Designing for Collaborative Creative Problem Solving**
O. Hilliges, L. Terrenghi, S. Boring, D. Kim, H. Richter, A. Butz, *Ludwig-Maximilians-Universität Munich*
3. **The Drive to Create: An Investigation of Tools to Support Disabled Artists**
D. Perera, K. Blashki, *Deakin University, Melbourne*
RT J. Eales, *Middlesex University, London*
4. **Eco-Visualization: Combining Art and Technology to Reduce Energy Consumption**
T. Holmes, *School of the Art Institute of Chicago*

Session 5 – Design Methods

Time: Friday, June 15, 10:30 – 12:00 PM

Chair: Andruid Kerne, *Texas A&M University*

1. **The Resourcefulness of Everyday Design**
R. Wakkary, L. Maestri, *Simon Fraser University*
2. **Using Dramaturgical Methods to Gain More Dynamic User Understanding in User-Centered Design**
V. Kantola, S. Tiitta, T. Kankainen, *Helsinki Institute for Information Technology*
K. Mehto, *Helsinki Polytechnic Stadia*
3. **Interactive Evolution for Industrial Design**
B. Bezirtzis, M. Lewis, C. Christeson, *The Ohio State University*
4. **TEAM STORM: Demonstrating an Interaction Model for Working with Multiple Ideas during Creative Group Work**
J. Hailpern, E. Hinterbichler, C. Leppert, D. Cook, B. P Bailey, *University of Illinois*

Session 6 – Music

Time: Friday, June 15, 2:00 – 3:30 PM

Chair: Mark Gross, *Carnegie Mellon University*

1. **A Computational Model of the Music of Stevie Ray Vaughan**
N. Vempala, S. Dasgupta, *The University of Louisiana at Lafayette*
2. **Gestural Hyper Instrument Collaboration with Generative Computation for Real Time Creativity**
K. Beilharz, S. Ferguson, *University of Sydney*
3. **Exploring Mutual Engagement in Creative Collaborations**
N. Bryan-Kinns, P. GT Healey, J. Leach, *University of London*
4. **Instrumentness for Creativity - Mediation, Materiality & Metonymy**
O. W Bertelsen, M. Breinbjerg, S. Pold, *University of Aarhus*

Closing Session: 4:00 – 5:30 PM

ART EXHIBITIONS

Speculative Data and the Creative Imaginary: Shared Visions between Art and Technology

Specially Curated for CC2007 by: Pamela Jennings, *Carnegie Mellon University, USA*

Opening Event: Wednesday, June 13, 2007 • 6:00-8:00 PM

National Academy of Sciences Gallery • June 3 - August 24, 2007

[http://www.nationalacademies.org/arts/Speculative Data and the Creative Imaginary.html](http://www.nationalacademies.org/arts/Speculative%20Data%20and%20the%20Creative%20Imaginary.html)

Complementing the conference themes: cultivating creative minds; sustaining creative communities; and promoting creative engagement, the works in this exhibition illustrate the breadth of creative digital media that impact interdisciplinary practices across the arts, science and technology research. This exhibition features interactive computer installations, large format digital prints, and wearable technology, representing a confluence of technology research and creativity that include the visual arts, design, architecture, performance, science, technology and engineering. The exhibited works share a common trajectory of exploring speculative inquiries, imaginary scenarios and real-time phenomenon from outer space to cyberspace; multi-dimensional space to urban space; public space to virtually embodied space; ecological space to social space.



This exhibition is dedicated to outgoing National Academy of Engineering President William A. Wulf, in recognition of his many years of support for the arts program at the National Academies in Washington D.C. Contributors to this exhibition include: Nell Breyer, Sheldon Brown, Donna Cox, Roger Dannenberg (opening night), Ernest Edmonds, Tiffany Holmes, Pamela Jennings, Greg Judelman and Maria Lantin, George Legrady, Marcos Novak, Sabrina Raaf, Bill Seaman, Thecla Schiphorst, Christa Sommerer and Laurent Mignonneau, and Martin Wattenberg.

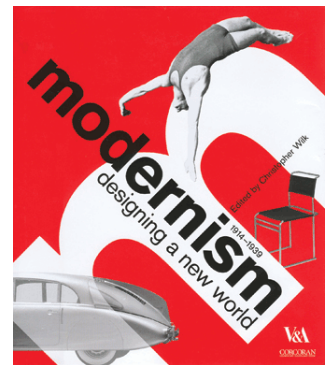
Modernism: Designing a New World, 1914 – 1939

Thursday, June 14, 2007 • 7:00 - 9:00 PM

Corcoran Gallery of Art • 500 Seventeenth Street NW

<http://www.corcoran.org/modernism/index.htm>

The designed world in which we live was largely created by Modernism, which is best identified as a loose collection of ideas that developed simultaneously in different countries rather than as a single movement. The unadorned, geometric forms, abstracted shapes, and bold colors of Modernist art and design are unmistakable, seen in everything from teacups to skyscrapers, from paintings to living room fixtures and furniture. But behind the look and forms of Modernism lay a set of radical ideas and conditions. This exhibition explores how the movement developed, what principles defined it, and some of the themes that characterized it, including Utopia, the machine and mass production, nature and the healthy body, and national identities.



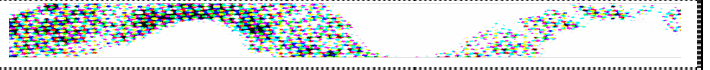
SCREENING OF "ROBERT RAUSCHENBERG - OPEN SCORE", INTRODUCTION BY JULIE MARTIN

THURSDAY, JULY 12, 2007 • RECEPTION: 5:00 PM – 6:00 PM • FILM SCREENING: 6:00 PM – 7:30 PM

NATIONAL ACADEMY OF SCIENCES GALLERY

IN 1966, 10 NEW YORK ARTISTS WORKED WITH 30 ENGINEERS AND SCIENTISTS FROM THE BELL TELEPHONE LABORATORIES TO CREATE GROUNDBREAKING PERFORMANCES THAT INCORPORATED NEW TECHNOLOGY. THEY USED VIDEO PROJECTION, WIRELESS SOUND TRANSMISSION, AND DOPPLER SONAR -- TECHNOLOGIES THAT ARE COMMONPLACE TODAY BUT THAT HAD NEVER BEEN SEEN IN THE ART OF THE 1960s. JULIE MARTIN, PRODUCER OF THE "9 EVENINGS" DVD SERIES, WILL DISCUSS THE FILM SERIES AS WELL AS THE 1966 EVENT THAT WAS THE FIRST LARGE-SCALE COLLABORATION BETWEEN ARTISTS, ENGINEERS, AND SCIENTISTS. OPEN SCORE IS CO-PRODUCED BY E.A.T. AND ARTPIX AND DISTRIBUTED BY MICROCINEMA INTERNATIONAL.

DEMONSTRATIONS AND POSTERS



Thursday and Friday, June 14 and 15, 12:00 – 2:00 PM

Chair: Linda Candy, *University of Technology, Sydney*

Interactive Experience in a Public Context

Z. Bilda, E. Edmonds, D. Turnbull, *University of Technology, Sydney*

Dynamic Media Arts Programming in Impromptu

A. R Brown, *Queensland University of Technology & The Australasian CRC for Interaction Design*
A. Sorensen, *MOSO Corporation*

Constrain Yourself: Exploring End User Development in Support for Musical Creativity

T. Coughlan, P. Johnson, *University of Bath*

Interfectio Puerorum: Digital Projections and the 12th Century Fleury's Massacre

M. Dolinsky, *Indiana University*
T. Nelson, *American Opera Theater*

Graph Theory: Linking Online Musical Creativity to Concert Hall Performance

J. Freeman, *Georgia Institute of Technology*

Software for Systematic and Imaginative Exploration

D. H Hepting, *University of Regina*

Sonictecture: Esthetic Spatial Conditioning Through Sound, Computation and Interaction

J. Jakovich, D. Reinhardt, *University of Sydney*

Partial Reflections: Interactive Virtual Instruments Controlled by Sound

A. Johnston, *University of Technology, Sydney*
B. Marks, *ELISION Ensemble*

A Periscope for Mobile Discovery and Narrative

E. Kabisch, *University of California, Irvine*

Reading and Writing with Wikis: Progress and Plans

C. Kussmaul, S. Albert, *Muhlenberg College, Allentown*

KMS Models for Video Files using Visual Mnemonics

M. Leggett, *University of Technology Sydney*

Eye-Balls: Juggling with the Virtual

J. Marshall, S. Benford, T. Pridmore, *University of Nottingham*

Goromi-Web: Browsing for Unexpected Information on the Web

G. Otsubo, *DENSO IT Laboratory, Inc.*

Dancing with Words

R. Rashid, *University of Toronto*
Q. Vy, D. I Fels, *Ryerson University, Toronto*
R. Hunt, *York University, Toronto*

PLAYAS: Critical Reflection in an Immersive Space

J. Stenner, *University of Florida*

GRADUATE STUDENT SYMPOSIUM

Wednesday, June 13, 9:00 – 5:00 PM

Chairs:

Jim Hollan, *University of California, San Diego*
Mary Czerwinski, *Microsoft Research*

Mentors:

Ben Fry, *Carnegie Mellon University*
Mary Lou Maher, *National Science Foundation, University of Sydney*
Bill Verplank, *Stanford University*

Art and Complexity: An Exploration of Aesthetics

G. Birkin, *Nottingham Trent University*

The Knot of Amateurs & Professionals: Untangling Social Roles in Creative Practice

E. Cook, *University of Michigan*

Exploring a New Paradigm and Tools for Wizard-of-Oz Experience Design

S. Dow, *Georgia Institute of Technology*

Designing Domestic Photographic Experiences to Support Autobiographical Memory

A. Durrant, *University of Surrey*

A Collaborative Approach to the Design of Interactive Systems for the Documentation of Dance

N. Ebenreuter, *Swinburne University of Technology*

Distributed Cognitive Walkthrough (DCW): A Walkthrough-Style Usability Evaluation Method Based on Theories of Distributed Cognition

J. Eden, *Drexel University*

Supporting Creativity: Investigating the Role of Computer-Supported Awareness in Distributed Collaboration

U. Farooq, *Pennsylvania State University*

Towards Expertise: The Role Chunking in Developing

S. Hairabedian, *Carnegie Mellon University*

Productive Fluency in Drawing

A. Ivanov, *Simon Fraser University, Vancouver*

The Bodily Aspect in Computer-Supported Creativity

A. Knorig, *University of Applied Sciences, Potsdam*

Syngva: An Object that Raises Questions of Agency, Relationship, and Control

N. Knouf, *Massachusetts Institute of Technology*

Cognitive Artifacts: An Art Science Engagement
D. Lomas, *University of California, San Diego*

Eye-Balls: Juggling with the Virtual
Joe Marshall, *University of Nottingham*

Creativity in VR: Constraint versus Exploration
L. McKnight, *Lancaster University*

Talk2Me: Engaging Interactive Installation Environments

A. Morrison, *The University of Queensland*

Augmenting Artistic Realities

H. Papagiannis, *York University & Ryerson University*

MULTI: Multiple User Interactive Template Installation

N. Paterson, *York University*

Design Patterns: Augmenting User Intention in Parametric Design Systems

C. Qian, *Simon Fraser University*

How Can Technology Support Musical Creativity

P. Riley, *University of Dundee*

Understanding and Supporting the Long-term Creative Work of Virtual Math Teams

J. W. Sarmiento, *Drexel University*

Modular Robotics As Tools for Design

E. Schweikardt, *Carnegie Mellon University*

Creativity and Categorisation

B. Short, *Lancaster University*

IdeaMurals: Supporting Ideation in Public Policy Knowledge Work

J. Stoll, *Georgia Institute of Technology*

Designing Hybrid Interaction through an Understanding of the Affordances of Physical and Digital Technologies

L. Terrenghi, *Ludwig-Maximilians-Universität München*

Systems for Artistic Creation: Creativity and Engagement

K. Willis, *University of Tsukuba*

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