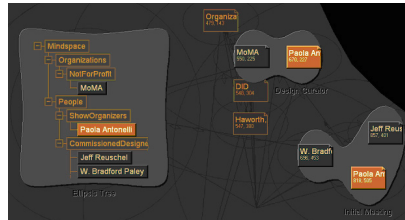


# The Smart Graphics Enterprise

The International Symposium on Smart Graphics will bring together researchers from Computer Graphics, Visualization, Art & Graphics Design, Cognitive Psychology and Artificial Intelligence, all working on different aspects of computer-generated graphics. This year's meeting will be held in Vancouver, Canada.

Advances and breakthroughs in computer graphics have made visual media the basis of the modern user interface, and it is clear that graphics will play a dominant role in the way people communicate and interact with computers in the future. Indeed, as computers become more and more pervasive, and display sizes both increase and decrease, new and challenging problems arise for the effective use and generation of computer graphics.



Recent advances in computer graphics have allowed AI researchers to integrate graphics in their systems, and on the other hand, many AI techniques have matured to the point of being easily used by non-specialists. These very techniques are likely to be the vehicle by which both principles from graphic design, and the results of research into cognitive aspects of visual representations will be integrated in next generation graphical interfaces.

## Smart Graphics 2006

In our final wrap up session of Smart Graphics 2005 we identified three key challenges for Smart Graphics:

1. To understand human reasoning with visual representations;
2. In human decision support, to reconcile the complexity of problems that must be solved with the simplicity of representation and interaction that is desired by users;
3. To build systems that can reason about and change their own graphical representations to meet the needs and abilities of their users and the nature of the information they present;

This year's SG will build on this by emphasizing the "smart" in Smart Graphics. This includes human individual, group, and distributed cognition as well as artificial intelligence applied to the design and testing of graphically rich systems. We invite members of the AI and Cognitive Science communities to join with Smart Graphics regulars in submitting papers with a focus on the interaction of cognition and graphics broadly defined: smart design, smart systems, and systems for smart users. In order to facilitate interaction with the AI and CogSci communities we have co-located SG with the 28th Annual meeting of the Cognitive Science Society and the IEEE World Congress on Computational Intelligence.

## Symposium Scope

Smart Graphics is grounded in a deep understanding of human abilities, activities, and desires. This understanding arises through the integration of fields such as art, design, and the social, cognitive, and perceptual sciences. Insights are realized in the form of novel methods for producing and interacting with rich graphical displays often utilizing established techniques from Computer Graphics, Artificial Intelligence, and Computer Science in general.

Such interfaces present content that

1. engages the user and is aesthetically satisfying,
2. participates in human cognition as external or distributed representations,
3. is sensitive to the real-time demands of the interaction in the context of the available computational resources and
4. adapts the form of the output according to a wider set of constraints such as an individual's perceptual, attentive, and motor abilities and the nature of the presentation media and available interaction devices.

Smart Graphics research can be loosely divided into principles, methods and systems based research, and the symposium will encourage submissions in all these areas, based on the following characterization:

**Principles:** Characterizing and coping with constraints on technological, computational and human perceptual, cognitive and motor resources; theories of Graphics Design and visual esthetics, theories of graphical representations and interaction; conceptualizations of graphics and interactive systems; representation and reasoning requirements for Smart Graphics; interaction between resource restrictions; design, requirements capture and evaluation methodologies.

**Methods:** New approaches to the design and testing of graphical generation, presentation and interaction for both conventional desk-top systems and new devices and media; acquisition and representation of design knowledge for Smart Graphics generation; empirical methods in the characterization of interaction; dealing with heterogeneous target media; application of planning, decision theory, optimization, constraint satisfaction, machine learning and other AI techniques to Smart Graphics; attentive systems; evaluation methods.

**Systems:** The application of Smart Graphics to visualization, virtual reality, augmented reality, mobile communications, wearable computing, graphical hypermedia, novel interaction techniques (e.g. attentive systems, haptic and natural language interaction), and advisory & tutoring systems.

SG06 welcomes submissions from computer graphics, HCI & AI researchers and practitioners, applied philosophers, cognitive scientists, artists and graphic designers.

## Submission Format

The Proceedings of SG06 will be published by Springer within their Lecture Notes in Computer Science series. Authors will find instructions for the preparation of their papers at Springer's Authors' instructions page. SG06 welcomes submissions from computer graphics, HCI & AI researchers and practitioners, cognitive scientists, graphic designers and other related fields in the following categories:

**Full papers:** These will be comprehensive descriptions of original research or design work within the scope of the symposium. They are limited to 12 pages in Springer LNCS style.

**Posters:** These will rather present tentative or preliminary results of research or design work within the scope of the symposium and with more emphasis on the interdisciplinary evaluation of these ideas. Posters will also be included in the proceedings and are limited to 4 pages in Springer LNCS style.

**System demonstrations:** These will be short descriptions of research or design work that the authors intend to show and discuss in a separate demo session at the symposium. A system description of up to 2 pages in Springer LNCS style will be included in the proceedings.

## Venue

Smart Graphics 2006 will be held at the University of British Columbia in Vancouver, BC, Canada. The University of British Columbia's Vancouver campus is located at the western tip of the Point Grey Peninsula, only 30 minutes from the heart of downtown Vancouver. The spectacular UBC campus is a 'must-see' for any visitor to the city. Housing will be provided on campus.



## Symposium Committees

### Organizing Committee:

Andreas Butz (University of Munich, Germany)  
Brian Fisher (University of British Columbia, Canada)  
Antonio Krueger (University of Muenster, Germany)  
Patrick Olivier (University of Newcastle Upon Tyne, UK)

### Program Committee:

Elisabeth Andre (University of Augsburg)  
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Marc Cavazza (Teeside University)  
Marc Christie (Université de Nantes)  
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Steven Feiner (Columbia University)  
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Knut Hartmann (University of Magdeburg)  
Rainer Malaka (European Media Lab)  
Shigeru Owada (Sony CSL)  
W. Bradford Paley (Digital Image Design)  
Bernhard Preim (University of Magdeburg)  
Thomas Rist (University of Applied Sciences, Augsburg)  
Stefan Schlechtweg (University of Magdeburg)  
Lucia Terrenghi (University of Munich)  
Kay Wiese (Simon Fraser University)  
Sha Xinwei (Concordia University)  
Massimo Zanecanaro (ITC-irst Trento)  
Michelle Zhou (IBM T.J. Watson Research Center)

## Deadlines

### March 24, 2006

April 14, 2006  
April 28, 2006

### Common submission deadline

Notification of Acceptance  
Camera ready copy due

<http://www.smartgraphics.org/sg06/>

# Sixth International Symposium on Smart Graphics



July 23-25, 2006  
University of British Columbia,  
Vancouver, Canada

Hosted by:



In cooperation with:



Proceedings published by:

