

**Call for Papers:**  
**Workshop on the Cognitive Science of Games and Game play**  
**(As Part of The 28<sup>th</sup> Annual Conference of the Cognitive Science Society, July 26-29 2006, Montreal, Canada)**

**Description**

Cognitive science has always had a strong relationship with games and game play. Simple cognition tests frequently have the form of games, and games like chess have provided traditional models of intense cognitive challenges. Ongoing advances in computer game technology have supported the creation of commercial games presenting a wide variety of cognitive challenges embedded within rich, engaging audiovisual worlds. The growth of computer games as an entertainment technology and medium is having a major cultural and social impact, with game players frequently spending large portions of their discretionary time deeply immersed in game play.

Despite the emergence of computer games as a major cultural and economic force, the scientific study of complex games is in its very early stages. Methodologies and theoretical paradigms are still being established, and the world waits for substantial results before game systems can be more fully deployed across broad application areas. Games are fundamentally learning systems and this is of particular interest, both from the perspective of the cognitive changes in players arising from entertainment game play (and their attendant social implications) and from the perspective of how games might function in more specific pedagogical and therapeutic contexts.

Theories and methods from cognitive science appear to be among the most promising for studying the structure, dynamics, affects and effects of games and game play. Moreover, computer games provide rich, multi-modal, controllable environments for conducting cognitive experiments having potentially higher ecological validity than the rarefied experiments of traditional cognitive psychology.

This workshop aims to bring together cognitive scientists interested in game phenomena, cognitive scientists interested in using games as a research tool, game researchers interested in cognitive approaches to the study of games, and game researchers interested in games for the study of cognition. The aim of this workshop is to consolidate and focus these interests in a new field of the Cognitive Science of Games and Game Play. Topics of interest include but are not limited to:

- cognition-based theoretical frameworks for the study of games and game play
- games as a methodological tool for cognition research
- emotion and aesthetics of games and game engagement
- cognitive neurophysiology of games and play
- cognitive foundations of game design principles
- cognitive and perceptual substructure of game interaction
- effects of game play upon player cognitive processes
- schemata involved in game play
- player modelling and motivational factors
- computational modelling of players, play processes, tactics, strategies and learning
- game interaction as a basis of cognitive modelling
- perceptual loading, attention and cognitive capacity management in game play
- empirical study of games; methods, results and interpretations
- social cognition and multiplayer games
- the cognitive substructure of fun

The workshop aims to provide a meeting and discussion venue for researchers interested in the study of games and game play from perspectives variously combining cognitive science and game research.

Game research with an emphasis on computer games has emerged over the last few years as an area of academic interest, together with the very rapid establishment of game related educational programs at both undergraduate and graduate levels. With this explosion of academic interest in games there has also developed an urgent need for adequate methodologies for the study of games and gaming, especially from the perspective of increasing scientific quality. It is the opinion of the authors of this proposal that the study of games from a cognitive perspective represents the most promising methodological approach for game research.

From a cognitive science perspective, games represent interesting phenomena that can reveal a great deal about cognitive structure and function. The simple tests used in traditional cognitive psychology constitute very simple games. Computer games based upon interactive 3-dimensional worlds provide much richer experimental tools, enhancing the artificiality of simplified experiments with rich, multi-modal cognitive and perceptual environments within which experimental variables can nevertheless be isolated and controlled in detail. The interactive nature of computer games has the potential to reveal much more about cognitive processes than passive media forms, with results having very wide implications due to the enormous popularity of games.

This workshop will be the first dedicated international meeting of researchers specifically interested in the intersection of cognitive science and game research. The expected outcome will be a research network that can continue to grow and develop this field. The impact is potentially very high due to the emerging interest in cognitive science within game research, and the current lack of any focal point for this interest. The research field itself may have enormous impact in addressing general social concerns about the real nature of game play and its effects upon players, as well as providing well founded principles for the use of games as situated learning systems, and as tools for cognitive therapy.

### **Intended Audience**

The intended audience includes researchers and practitioners from cognitive science, game research, commercial game design and development, aesthetics, pedagogy, psychology and psychiatry, computing science, interaction design and human-computer interaction.

### **Time**

The workshop will be held from 0830 to 1700 on Wednesday July 26 2006.

We expect to have 11 research papers/presentations of 30 minutes each (20minutes presentation time and 10 minutes discussion time) and a closing panel discussion of 30 minutes.

### **Submission**

Those interested in attending the workshop should submit a 500 – 1000 word abstract by 19 May 2006. Submissions should be sent in electronic form to: [craig.lindley@hgo.se](mailto:craig.lindley@hgo.se)

Authors of accepted abstracts should submit full papers by Friday 30 June 2006. Full papers may be up to 10 A4 pages in length.

Please note that workshop attendees must register both for the full CogSci2006 conference and the Workshop on the Cognitive Science of Games and Game play. Please see the CogSci2006 conference web site (<http://www.cogsci.rpi.edu/~rsun/cogsci2006/>) for registration details.

### **Publication**

Workshop publications will be documented in the form of a collection of papers or compiled proceedings distributed in electronic form via the Web by Gotland university and/or the

DiGRA on-line library. If the papers are of sufficient quality, subsequent journal publication of revised papers will also be investigated.

### **Summary of Important Dates**

19 May 2006 Submission of abstract (500-1000 words)  
31 May 2006 Notification of abstract acceptance/rejection  
30 June 2006 Submission of full text for accepted papers (up to 10 A4 pages)  
26 July 2006 Workshop

### **Contact Details**

For further details about the workshop, please contact Prof. Craig Lindley, [craig.lindley@hgo.se](mailto:craig.lindley@hgo.se).

For information about CogSci2006, please see the conference web site: <http://www.cogsci.rpi.edu/~rsun/cogsci2006/>

### **Organising Committee**

The Organising Committee for the CogSci2006 Workshop on the Cognitive Science of Games and Game play includes:

Prof. Craig Lindley, Gotland University College and Blekinge Technical College, Game Design, Cognition and Artificial Intelligence Research Group, Gotland University College and Blekinge Technical College, Cramergatan 3, SE-621 86 Sweden, [craig.lindley@hgo.se](mailto:craig.lindley@hgo.se)

Jussi Holopainen, Nokia Research Centre, Finland, [jussi.holopainen@nokia.com](mailto:jussi.holopainen@nokia.com)

Wijnand A. IJsselsteijn, Human-Technology Interaction Group, Department of Technology Management, Eindhoven University of Technology, The Netherlands, [W.A.IJsselsteijn@tm.tue.nl](mailto:W.A.IJsselsteijn@tm.tue.nl)

Niklas Ravaja, Center for Knowledge and Innovation Research, Helsinki School of Economics, Tammasaarekatu 3, FIN-00180 Helsinki, Finland, [ravaja@hse.fi](mailto:ravaja@hse.fi)

Charlotte Sennersten, Gotland University College and Blekinge Technical College, Game Design, Cognition and Artificial Intelligence Research Group, Gotland University College and Blekinge Technical College, Cramergatan 3, SE-621 86 Sweden, [charlotte.sennersten@hgo.se](mailto:charlotte.sennersten@hgo.se)