

## Call for Workshop Contributions: Opportunities for intelligent behavior in collaborative learning systems



Opportunities for intelligent behavior in collaborative learning systems is a pre-conference workshop at the 15th International Conference on Artificial Intelligence in Education, to be held from June 27 - July 1, 2011 in Christchurch, New Zealand.

### Workshop Themes

Intelligent tutoring systems seek to individualize each student's learning experience, but this need not necessitate that the experience itself be solitary. A variety of recent systems have demonstrated ways in which an adaptive learning environment can incorporate multiple learners. Similarly, students using collaborative learning systems have been shown to benefit from the introduction of adaptive support that targets the collaboration. In this workshop, we invite discussion and seek to explore ways in which the combination of collaborative and intelligent aspects of a system can benefit the learner.

We recognize, however, that researchers face many challenges when working with collaborative intelligent learning systems. This workshop will be a venue for people to discuss lessons learned about practical difficulties involved in implementing and evaluating intelligent support for collaborative learning. We encourage participants to share findings and theories on how we can overcome barriers to developing adaptive support for collaboration in order to achieve results that a traditional ITS may not be able to offer, such as increased motivation and social skills. In addition, we solicit participation from members of the AIED community who work on research areas relevant to intelligent collaborative learning support, such as motivation and modeling ill-defined domains. We believe that research in intelligent support for collaboration would benefit from the expertise of these more well-established subareas.

One goal of this workshop is for participants to leave with a new set of ideas surrounding valuable research directions in adaptive support for collaborative learning. We wish to share knowledge about: *What is the current state of the art in this field? What challenges do we face in building collaborative intelligent learning systems? What techniques have we found to be successful (or unsuccessful) in addressing these challenges? What are future research directions?*

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## **Topics of interest for the workshop include, but are not limited to:**

### ***Modeling & Assessment***

How can we assess and model effective and ineffective student collaboration?

How can we do student modeling in collaborative contexts?

### ***Assistance***

How can we provide assistance or scaffolding to collaboration within the context of an ITS?

How can we intelligently set up conditions conducive to collaboration?

### ***Platform***

What practical lessons can we share about experiences building or testing these systems?

How can we leverage existing architectures (intelligent/collaborative) in new systems?

## **Workshop format:**

The workshop goal is to foster communication regarding the challenges surrounding the development and evaluation of intelligent collaborative learning systems, with a particular focus on soliciting input from researchers in other areas of AIED. Thus, the workshop will emphasize small and large group discussions rather than conference-style presentations. It will consist of four main activities: a poster/demo session, a series of invited talks, break-out discussion session regarding the challenges facing the field, and then a larger group discussion sharing insights from the break-outs.

### ***Poster & Demo Session (1 hour)***

The workshop will begin with a one hour poster and demo session. At the beginning of the session, all presenters will do a 2 minute firehouse-style presentation of their work, so that workshop participants are made aware of all posters and demos in which they may be interested.

### ***Invited Talks (1 hour)***

Researchers from other areas of AIED will be invited to give talks providing an external perspective on the state of the art in intelligent support for collaborative learning, and on fruitful future directions.

### ***Small Group Breakouts (1 hour)***

Next, participants will engage in small group break-out sessions organized around themes drawn from the invited talks. Groups will discuss potential solutions to the challenges broached by the speakers. Groups will then prepare to present their conclusions to the rest of the workshop participants.

### ***Large Group Discussion (1 hour)***

Finally, participants will come back together for a large group discussion. Each group will present an overview of the group discussion and field questions from the other groups. We will conclude with a large group discussion of all themes.

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### **Submission Instructions**

We invite participation from all researchers interested in the role that collaboration can play in intelligent tutoring systems. We encourage two kinds of short paper submissions (up to 4 pages):

- Descriptions of research combining intelligent tutoring and collaboration, to be presented as a demo or poster
- Descriptions of research in a different subarea of ITS and how it generalizes to intelligent support for collaboration. Successful paper authors in this category should be prepared to lead a discussion relating to the themes of their paper in the "Small Group Breakout" section.

Papers should be submitted as PDF files, formatted similar to AIED conference papers (i.e. using the Springer LNCS LaTeX template or Word template.) Submissions should be done through EasyChair: <https://www.easychair.org/conferences/?conf=aiedcollaborationwor>

Please address all related inquiries to: [ari+aied@grockit.com](mailto:ari+aied@grockit.com)

### **Important Dates**

- Abstract must be submitted by: March 21, 2011
- Full submissions due on: March 25, 2011
- Notification of acceptance: April 18, 2011
- Camera-ready deadline: May 16, 2011
- Workshop date: June 27 or 28, 2011

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### Organizers

Ari Bader-Natal (Grockit, USA)

Ari is a researcher at Grockit, where he has helped to design and build a commercial web-based platform for live collaborative learning networks. His interests are at the intersection of data-driven intelligent algorithms and peer-driven collaborative support for learning, and he has built and studied several such systems in the past ten years.

Erin Walker (Arizona State University, USA)

Erin Walker is a post-doctoral researcher at Arizona State University. In her dissertation research, she constructed a system that provides intelligent tutoring support to peer tutoring, and conducted several evaluations of the system. Her research questions explore how to design and implement effective adaptive collaboration support, and what effects the support has on interaction and domain learning outcomes.

Carolyn Penstein Rosé (Carnegie Mellon University, USA)

Carolyn Penstein Rosé is Assistant Professor at the Language Technologies Institute and Human-Computer Interaction Institute at the School of Computer Science a Carnegie Mellon University.

Rohit Kumar (Carnegie Mellon University, USA)

Rohit Kumar is a Ph.D. candidate at the Language Technologies Institute in the School of Computer Science at Carnegie Mellon University. His research involves investigating interactive behaviors that Conversational Agents can exhibit to support Multi-Party Interaction, i.e. groups of users working together on interactive tasks. Rohit has been working with Dr. Carolyn P. Rosé while pursuing this line of work.

### Program Committee:

Christa Asterhan (Hebrew University of Jerusalem)

Roger Azevedo (University of Memphis)

Nilufar Baghaei (Commonwealth Scientific and Industrial Research Organisation)

Bob Hausmann (Carnegie Learning Inc.)

Toby Dragon (University of Massachusetts – Amherst)

Ulrich Hoppe (University of Duisburg)

Rose Luckin (University of London)

Bruce McLaren (DFKI -- Saarbrücken/Carnegie Mellon University)

Helen Pain (University of Edinburgh)

Nikol Rummel (University of Freiburg)