

# Newsletter

*College of Physical and Mathematical Sciences*

*In the month of  
September . . .*

- *Monday, Sept. 6  
– Labor Day  
holiday*
- *Thursday, Sept. 9  
– United Way  
Day of Caring*

## Congratulations to Dan Olsen

At the CHI (Computer Human Interaction) conference held in Vienna, Austria, April 22-29, Dr. Dan Olsen of the BYU Computer Science department was inducted into the CHI Academy. The CHI Academy is an honorary group of 25 of the top researchers in the field of computer-human interaction.

He was cited as one of the earliest and most influential researchers in the user interface software

domain. His first contributions were in using formal language techniques (such as finite state machines and Backus-Naur Form) to specify the syntactic structure of a user interface. He has published two books on user interface software: *Developing User Interfaces and User Interface Management Systems: Models and Algorithms*. His 1988 MIKE system was an early and influential system for

automatically generating a user interface from semantic specifications. Dan has shown great versatility in the past 10 years, creating novel systems in areas ranging from computer supported cooperative work, to interactive machine learning, and developing metrics and principles for human-robot interaction. Dan was founding editor of ACM's *Transactions on Computer-Human Interaction*.

## Y. duo takes video games to new level

Deseret Morning News, Tuesday, April 27, 2004

**By Shana Helps** Deseret Morning News

PROVO — Video game players may soon face the ultimate challenge — a video game that changes with every playing, making it impossible to master the game simply through repetition.

A Brigham Young University professor and a doctoral student have created a program that gives the computer the

ability to analyze the actions of the game player and use that information to alter the actions of the game characters, making each playing of the game different.

"We start with the characters, and we simply give them goals," said Parris Egbert, BYU associate professor of computer science and leader of the project. "They (the characters) have to figure out what they have to do to accomplish those goals."

Game animators provide the characters with an initial set of information that gives the computer a sense of how humans might react to certain situations. The computer builds on that information as the game is played, altering the responses of the characters to the methods and approaches being used by the game player.

The goal is to make the characters appear more intelligent as they interact in the virtual (cont. on 2)

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## New Faces in the college

### Computer Science

Christophe Giraud-Carrier – faculty

Lynn Patten - staff

Paul Roper – faculty

Mindy Varkevisser - staff

Phil Windley - faculty

Daniel Zappala – faculty

### Geology

Rod Scheetz – faculty

### Mathematics

Weigu Li – faculty

Celeste Elton Millett – faculty

Kaxuhiro Sakuma – faculty

### Mathematics Education

Jason Belnap – faculty

Tiffini Glaze – faculty

Sharon Gourley – faculty

environment with the game players, said Jonathan Dinerstein, a computer science doctoral candidate whose dissertation provided the basis for the new program.

The research that went into creating the product appears in today's "Journal of Computer Animation and Virtual Worlds."

"It's been a fun project," Egbert said.

Egbert and Dinerstein began the research for Dinerstein's dissertation

about a year ago, Egbert said. There was no expectation that it would become a marketable product, but that is now a real possibility.

"We haven't talked to game companies about it," Egbert said. "That's one of the things we want to do."

While the initial work on the program is done, the two researchers continue to make additional improvements and enhancements.

"I think there's enough

here that we could keep this going for several years to come," Egbert said.

The technology's potential also has prospects outside the video game market. Dinerstein believes it can also be used in training simulators, movies, driving simulators and for other applications.

"The primary motivation was the desire to be able to achieve more interesting characters for whatever application might be useful," he said.

## 2004 Annual University Conference

The Annual University Conference was held during the week of August 23-27. Several of the college's faculty and staff were recognized in an award presentation during the conference.

**Thomas W. Sederberg**, Computer Science faculty, received a University Professorship Award. This award encourages and acknowledges senior faculty who are outstanding scholars, teachers, and university citizens.

**Paul B. Savage**, Chemistry and Biochemistry Associate Chair, received a Karl G.

Maeser Excellence in teaching Award honoring him for outstanding teaching accomplishments.

**Milton L. Lee**, Chemistry and Biochemistry faculty, was awarded the Wesley P. Lloyd Award for Distinction in Graduate Education. This award pays tribute to a faculty member of exemplary performance in teaching, research/creative work, and citizenship in graduate education.

**Gregory F. Burton**, Chemistry and Biochemistry faculty, received a John A. Widtsoe Fellowship in

recognition of work that enhances the quality of life or contributes to the solution of pressing world problems.

**C. Shane Reese**, Statistics faculty, received a Young Scholar Award which encourages and acknowledges outstanding promise and contributions by faculty in the early stages of their academic careers.

**Kristine B. Mortenson**, Geology administrative employee, was awarded a President's Appreciation Award in recognition of her exceptional service, creativity and competence.

## College Publications

### Chemistry and Biochemistry

#### May 2004

K. Wardle, E. Carlson, D.J. Henderson and R.L. Rowley, "Molecular Dynamics Simulation of the Effect of Ions on a Liquid-liquid Interface for a Partially Miscible Mixture," *J. Chem. Phys.* **120**, 7681-7688 (2004).

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