
Cognitive Information Processing EPSCoR State Conference

Conference Program

The CIP EPSCoR State conference is being held in conjunction with the 2006 IEEE Symposium on Computational Intelligence and Games (CIG06). While the CIG06 presentations will be in the Jot Travis Student Union Room 246, all CIP presentations will be held in the Jot Travis Student Union (JTSU) room 244. Coffee and other breaks will be in JTSU 245, right next door. The poster session is in the Pine Lounge which is also in the JTSU.

CIP presenters will have a **seperate presentation session from 1320 to 1525 in JTSU room 244** in parallel with CIG06 presentations. With the aim of enhancing interaction with researchers from across the world, the CIP poster session will be at the same time and place as the CIG06 poster session in the Pine Lounge of the JTSU.

CIP conference registrants will have access to all CIG06 sessions and events. This conference program only provides detailed information on the CIP presentation session and the CIP poster session. The schedule for CIG06 is available from <http://cig06.cse.unr.edu>



Sunday May 21, 2006

1800 - 2000: Reception at Silver Legacy's Silver Baron Room D

Monday May 22, 2006

0815 - 0850: Breakfast/Registration (JTSU 245)

0850 - 0900: Welcome - Sushil Louis

0900 - 1000: Plenary: Ian Lane Davis: *Challenges for Game AI*

1000 - 1030: Coffee

1030 - 1210: CIG 06 Session 1 in JTSU 246

1210 - 1320: Lunch Provided in JTSU 245

1320 - 1525: CIP Session in JTSU 244: Chair to be invited

1320 - 1345: *Utilizing Fuzzy Logic for Gene Sequence Construction from Sub Sequences and Characteristic Genome Derivation and Assembly.* Sarah Nasser, Greg Vert, Alison Murray, Monica Nicolescu.

1345 - 1410: *Electroactive Polymer Based Artificial Muscle-Drien Bio-Robotic Micromanipulation for Somatic Cell Nuclear Transfer.* Sang-Mun Kim, Kwang Kim, Woosoon Yim

1410 - 1435: *Development of Air-Sea Interaction Model with the Parameterization of the Ocean Surface Gravity Waves.* Adam Kochanski, Darko Koracin, George Bebis

1435 - 1500: *Autonomous Intelligent Rover Design.* Pablo Rivera, Monica Nicolescu, Eric Wang, Jeffrey LaCombe

1500 - 1525: *Biomimetic Underwater Locomotion Control of IPMC (Ionic Polymer Metal Composite) based undulatory FishBot.* Joonsoo Lee, Woosoon Yim, Kwang J Kim

1525 - 1600: Coffee

1600 - 1730: CIP Poster Session (Pine Lounge, JTSU). For new graduate fellows and mentors

Dinner: On your own

Tuesday May 23, 2006

0815 - 0900: Breakfast/Registration (JTSU 245)

0900 - 1040: CIG06 Session 3

1040 - 1100: Coffee

1100 - 1215: CIG06 Session 4

1215 - 1300: Lunch provided in JTSU 245

1300 - 1330: Transportation to International Game Technology Campus

1330 - 1430: Plenary: Murray Campbell: *Looking Back at Deep Blue*

1500 - 1600: IGT tour

1600 - 1800: Transportation back to conference hotel

1800 - 2000: **Conference banquet** at Silver Legacy's Silver Baron Room D

Wednesday May 24, 2006

0815 - 0900: Breakfast/Registration (JTSU 245)

0900 - 1000: Plenary: Michael Van Lent: *Beyond Entertainment: AI Challenges for Serious Games*

1000 - 1030: Coffee

1030 - 1235: CIG06 Session 5

1235 - 1345: Lunch Provided in JTSU 245

1345 - 1525: CIG06 Session 6

Conference Ends

Plenary Program

We have a plenary scheduled for each day.

Monday, 09:00 - 10:00 Ian Lan Davis *Challenges for Game AI*

The Video Game industry has grown rapidly in the last few years, and the demand for more compelling and convincing characters, opponents, and comrades in games has made AI one of the hottest areas for research in games. Additionally, the AI and simulation techniques found in games have broad application in "serious" simulations of all sorts, and game developers find a lot of common areas of interest with academic and industry researchers. In this talk, I will give an overview of the AI problems found in both First Person and Strategy games, and tie this into areas of AI outside of the video game industry. Video Games turn out to be the ultimate laboratory for developing the most advanced and successful AI techniques, and we'll look at the current state of the art as well as the open problems now and in the near future

Tuesday, 13:30 - 14:30 Murray Campbell: *Looking Back at Deep Blue*

It has been nine years since IBM Research's Deep Blue defeated Garry Kasparov, the then-reigning world chess champion, in an epic six-game match that was closely watched by millions. In this talk I will present the background that led up to the decisive match, review the match itself, and discuss some of the broader implications of Deep Blue's victory. Issues I will cover include Deep Blue's connections to high-performance computing, what "intelligence" really means, and the roles that games play in the fields of artificial intelligence, education, and entertainment.

Wednesday 09:00 - 10:00 Michael Van Lent: *Beyond Entertainment: AI Challenges for Serious Games*

In the commercial video game industry artificial intelligence (AI) is starting to rival graphics as the key technology component that sells games. Most game reviews comment on the quality of the title's artificial intelligence for better or worse. Games with innovative AI, such as The Sims and F.E.A.R., are often top sellers. As a result game studios are actively exploring new AI techniques that fit within the many constraints of the commercial development process. Serious games, which focus on non-entertainment goals such as education, training, and communication, pose different AI challenges and have different constraints. The University of Southern California's Institute for Creative Technologies has developed ten different serious games, largely focused on military training, and has a number of research efforts focused on artificial intelligence for serious games. While these research efforts focus on the AI requirements of serious games, they often suggest innovations that have potential applications in the entertainment game industry as well.