Center for Information Assurance

On June 6, 2006, the National Security Agency and the U.S. Department of Homeland Security have designated the University of Memphis as a National Center of Academic Excellence in Information Assurance Education (CAE-I), for the academic years 2006-2009. The award formal presentation was made during a ceremony at the 10th annual conference of the Colloquium for Information Systems Security Education (pictures pictured). Dr. Dipankar Dasgupta, Professor of Computer Science is the founder and current Director of the Center. He has been working for the last five years to develop a multidisciplinary IA program that brings together Computer Science, Management Information Systems, Law and Criminal Justice. With such a broad consortium of expertise, the Center seeks to address a wide range of interdisciplinary issues, providing innovative solutions. The Center regularly hosts guest lectures, seminars and IA awareness workshops for students and professionals in the Mid-Valley area. To learn more about Cyber Security challenges, experiences, and opportunities, visit the CFA website at cfa.memphis.edu

Appplied Computer Science

The new Applied CS graduate program is in full swing. This flexible program currently has over students in diverse specialty areas such as Multimedia Arts, Information Assurance, and Cognitive Science. For more information, visit the CS Department website at www.cs.memphis.edu/degrees

CS Social

The 3rd annual CS Social, held at the University Center on Halloween Friday, was a great success. Over 100 students, alumni, faculty, and alumni enjoyed comedies, great conversations on the history of computing, prizes for best student posters, and pole-dancing provided by attendees. We kissed the old building goodbye, and plan to make it even greater next year at a new venue.

Dr. Robert Kozma has received the National Academies Sciences, Engineering, and Health Professions' 2007 Senior Fellowship Award. In addition, he recently received an NSF grant on “Brain Network Dynamics.” Dr. Kozma acted as Chair of the National Research Council’s Committee on the Status of Mathematical Sciences in the National Research Council’s Committee on the Status of Computation in the Behavioral and Social Sciences.

Dr. Linda Sherrell was designated as a Systems Testing Research Fellow of the FedEx Institute for Technology. Her grant proposal “Improving the Benefits of Testing throughout the Software Development Life Cycle” and “A Process for Risk-based Testing” have been approved for a total of $50,000.00 from the Office of Research and $8000.00, respectively.

Dr. Lan Wang started a 3-year NSF project entitled “Optimizing the Next-generation Global Monitoring System” in August 2006. In addition, she received funding from the System Testing Education Program at the FedEx Institute of Technology for a proposal written with the assistance of our PhD student: Jake Qualis. The STEP project is entitled “NIFS: Network Infrastructure Testing Suite.”

Dr. Walter Rui, in conjunction with researchers from the Department of Psychology and the Institute for Intelligent Systems, is currently working to develop a deeper Natural Language Processing approach for evaluating student dialog turn during student-computer interaction. The project, funded by NSF, focuses on examining the effectiveness of an animated pedagogical agent to foster middle school and college students understanding of complex and challenging scientific topics, such as the human circulatory system.

Dr. Stan Franklin and the Cognitive Computing Research Group have produced an online tutorial entitled "How Minds Work: A Cognitive Theory of Artificial Intelligence" that can be found at [cognitive.ccsr.missouri.edu/tutorial](http://cognitive.ccsr.missouri.edu/tutorial), and comments and questions can be directed to stanfranklin@umkc.edu.

In addition Dr Franklin has presented the keynote address entitled “A Cognitive Theory of Everything: The LOA Technology as an Artificial General Intelligence” to the IEEE Symposium on Technologies for Artificial General Intelligence, Bethesda, MD, May 20-21.

Dr. Franklin also delivered a featured foundational address entitled Cognitive Computing for Medical Informatics: An Ontology and Applications to AMIA 2006 Spring, the American Medical Informatics Association, in Washington DC on November 13th.

Dr. Frank was appointed to the National Academy of Engineering in 2006. He is the author of "Computing Intelligence in Cyber security" at the IEEE conference on Cyber Security Education, Training, Research and Applications at the University of Memphis at the Tennessee Homeland Security Coalition in Nashville at Vanderbilt University in Nashville.
In June, new fellows Joe Burleson, Top Malarsi, Ahmed Owais, Jake Quill, Alfius Rush, Ebony Smith, Joseph Vannucci, and Kevin Kemp joined returning fellows Saraj Bowen, LaTroy Francisco, and Quintin Tran for summer workshops which gave fellows instructions in using AgentSheets to teach introductory programming concepts and the use of Lego robots to supplement object-oriented programming classes in Java.

Comments from Bob Vawter, Programming teacher at Collierville High School

More girls: I’ve noticed this year that my normally all-boys classes began to have more girls involved, and the girls are doing a great job with programming skills and knowledge.

More interest in programming and programming challenge: I’ve already noticed a couple of my Basic Programming class for next year has grown by 1, so I’ll have 3 basic classes next year, and my advanced class has more people signed up as well.

Much more help for the teacher: I really enjoyed having the Fellow help students on a one to one basis, and for their knowledge about computer science. I have learned so much from the Fellows during the past two years that I feel I’ve had a refresher class in programming.

Very good resource for students: Fellows are a good question about programming or computer science in general and get a fast response from our Fellow.

Helped Collierville Computer Science students the most: My students are the real winners with the NSF grant! The students not only get my teaching experience, but they also get the resources and experience in computer science from the Fellows.

UM among GECCO Best Papers


GECCO, the International Genetic and Evolutionary Computation Conference, is one of the premier forums for high-quality work in the field of genetic and evolutionary computation. The 2006 list of Best Paper winners can be found at http://www.sigevo.org/gecco-2006/best-papers.html

Graduate Certificate Program in Information Assurance (G CIA)

This certificate program highlights important aspects of information security and assurance technologies. The program is administered by the Computer Science Department, though some courses are taught by other departments and colleges, and any graduate student meeting admission requirements will be eligible to join the certificate program.

In particular, students currently admitted to a graduate program at the U of M may join this certificate program or it may also be pursued as a non-degree student. More information can be found at http://www.cs.memphis.edu/degrees/

NetLab

Two new members joined the Networking Research Lab (NetLab). Dr. Dung Dinh Luong, a postdoctoral fellow from Hungary, joined the NSF CRI project, and Charles Ellis, an undergraduate student, joined the STEP NITs project.

Kriangsup Malarsi and Dr. Lan Wang (pictured left). He is been developing security mechanisms for medical wireless sensor networks. Kriangsup Malarsi is writing embedded programs to run on wireless sensors manufactured by Motex (the sensor is attached to the back of his laptop).

Tri-P-LETS Fellows Enhance High-School Computer Science

Tri-P-LETS is funded by the National Science Foundation NSF HRD-11-13 grant "Computer Science Resources for Memphis Area High Schools" - DGE-0338324.

Summer 2006 Graduates

Hui Chen, PhD
Dissertation: Cache Access and Replacement for Wireless Data Access
Advisor: Dr. Yang Xiao

Zhou Ji, PhD
Dissertation: Negative Selection Algorithms: from the 700mV to V-detector
Advisor: Dr. Dipankar Dasgupta

Argeaghnp Negatu, PhD
Advisor: Dr. Stan Franklin

Andrew Olney, PhD
Dissertation: Unsupervised Induction of Latent Semantic Grammars with Application to Parsing
Advisor: Dr. Lee McCauley

CS Roundup

STEP

The System Testing Excellence Program sponsored by the FedEx Institute of Technology brings the talents of CS, MIS and ECE faculty together to support and enhance software and system testing activities and capabilities in industry. Thirteen research proposals (including four from CS by Drs. Serrill, Wang and Rus) as applied to problems at FedEx Corporation have been funded by STEP. The first international workshop on Advances and Innovations in System Testing to be held at UM, May 6-7, 2006 is being planned with Dr. Shiva as general chair and Dr. Rus as program chair.

CS Colloquium

This semester’s CS Colloquiums run from late September to early December. We are glad to have outstanding academic researchers like Dr. Louis Chen (University of Texas), Dr. Pavel Sumazin (Portland State University), Dr. L.J Yang (UT-Chattanooga) and Dr. Hung-Chi Su (Arkansas State University). Dr. Congen Yang from Autozone also gave a talk about CS from the industrial perspective. This semester we also initiated an after-talk session where students gathered to interact with the speakers. The after-talk sessions raise various issues, and the speakers shared their personal experiences and viewpoints about their careers. We have had about 35-40 students, faculty members and others attend the colloquium every Friday. The after-talk sessions have also attracted an average of 20 students.

For Spring 2007, we have invited Dr. Dougles Blank (Bryn Mawr College) for a talk in early February, and we are making an effort to invite other speakers, in addition to talks by our faculty members. Please refer to the CS web site for the latest information.

CS Internships

The Department has doubled efforts to set up a full internship program and is happy to announce that it is now able to provide an opportunity for any student that would like one. Internships provide real-life experiences in an Industrial setting that usually prove highly valuable in many ways. Full details on requirements and procedures can be found at www.cs.memphis.edu/internships, or by contacting Dr. Max Garzon or Julia Campbell.

CS Social - October 27, 2006

Great personalities in the history of computing inspired some model situations by the departmental troupe, the incredulous knicks.

Programming Competition

A CS Department Programming team recently finished in 5th place in the programming competition held in the CSCI conference in Nashville, TN. Contact Dr. Vinhthuy Phan for more information.

Recent Graduates

Mkyola Aleshchavan - Oracle Systems
Sanjalp Bhatnagare - Brooks Incorporated Inc.
Deon Garrett - AutoZone
Zhou Ji - AutoZone
Kriangsup Malarsi - Pavan Kamal - Microsoft