From the Chairman

It is with great pleasure that I applaud the CS faculty’s decision to set the goal of becoming one of the top 60 CS departments in the nation by 2012. We have come a long way since 25 or more years ago of offering a computer science program as part of the Mathematics Department. The CS Department now has an ABET accredited B.S. program, a well established Applied CS master’s program, and a graduate certificate program in information assurance, in addition to the traditional CS master’s and doctoral degree programs.

This year we have exceeded $8 million in external funding for our research activities. This funding comes from NSF, DHS, NIH, ONR, and other organizations. We have established new collaborations with other campus departments, other universities, and industries to achieve this funding level. We have started serving local industry through our service agreements with them. Our student recruitment activities have spanned local school systems and colleges and universities around the Memphis area. This activity will be extended to visit local industry during the Spring semester. Retention of students has taken the front seat through the social and professional activities of the ACM student chapter, Ombudsmen program for freshman students, and the upcoming Mentor program to provide peer counseling and interaction.

I am excited about the future of CS at the U of M. We are making changes to improve the fundamental preparation and breadth of perspective of our students, making them more and more competitive for positions requiring CS degrees.

Dr. Sajjan Shiv

Department News

Welcome to New Faculty Members

Dr. Evan Drumwright joined the department as a visiting Assistant Professor. He received his Ph.D. in Computer Science from the Univ. of Southern California (May 2007).

Dr. German J. Hernandez, Associate Professor from the Computer Engineering Department at the National University of Colombia, joined the department as a Visiting Research Fellow under Dr. Dipankar Dasgupta.

Mr. Khangtiga Malani joined the department as an Instructor. He holds master's degrees from Georgia Tech and the U of M, and he was an NSF teaching fellow under Dr. Linda Sherrer’s Tri-P.LETS GK-12 program.

CND Hosts Air Force Workshop

A U.S. Air Force workshop on “Intelligent Sensory Data Processing and Imaging in Dynamic Battlefield Scenarios” was held October 29-29 at the PEITx Institute of Technology. It was co-sponsored by AFRL, Wright-Patterson AFB, and Hanscom AFB, as well as Computer Science, FIT, and ECE at the U of M. Dr. Robert Koza, director of the Computational Neurodynamics Lab (CND), co-organized the event with Dr. Amir Shashki Kadi (TSU, Nashville). For details visit cnd.memphis.edu/sdp07.

Cyber Security Awareness Day

On September 3, the Center for Information Assurance (CIA) and CISC jointly hosted Cyber Security Awareness Day. Dr. Dipankar Dasgupta, director of the center, organized the event, whose purpose was to discuss the ever-present threats to information and information infrastructure. For more information, please see cas.memphis.edu/cifs/07/sept24/cisco_event.htm

Faculty Spotlight: Dr. Santosh Kumar

Dr. Santosh Kumar had two papers accepted to the extremely selective ACM MobiCom 2007 conference. In addition, he has been awarded three major grants from federal funding agencies. The first is a three-year NSF grant to develop theoretical foundations for wireless sensor networks deployed for detecting moving targets. Dr. Kumar will collaborate with faculty from Mathematical Sciences to develop new mathematical methods to determine the appropriate number of sensors needed to guarantee detection of all movements. The project will also develop optimal algorithms for reconfiguring the network through unanticipated failures.

Dr. Kumar's second grant is a joint effort between the University of Memphis and Ohio State University. This three-year NSF grant will focus on studying tracking of mobile targets in large-scale sensor networks. In addition to theoretical aspects, the project will build and deploy a campus-wide burglar tracking system, "AutoWiness," which is expected to reduce property thefts and robberies in and around the University of Memphis campus.

DNA13 Conference

The 13th International Workshop on DNA Computing (DNA13) and 3rd Annual Symposium on Nanotechnology were held at the U of M on June 4-6, organized by Dr. Mas Garage. This premier conference attracted attendees from over 10 countries, including keynote speakers from Harvard, Caltech, Princeton, and Lucent Technologies. Details can be found at dna13.memphis.edu

Facilities & Achievements

Dr. Dipankar Dasgupta received the College of Arts and Sciences Distinguished Research Award (CASDRA) in the Engaged Scholarship category for 2006-2007. Dr. Dasgupta was also awarded the prestigious Dunavant Professorship by the College of Arts and Sciences for his achievements. He will receive $30,000 per year for three years (2007-2010) to support his research program.

In addition, Dr. Dasgupta received a research grant for "Genetic Algorithms for Salient Assignment Problem-II (GenoSAP-II)." This project is sponsored by NPRST under the auspices of the ARO and administered by Battelle, from 9/12/2007 to 9/12/2008. Dr. Dasgupta is also a co-PI of the DoD Information Assurance (IA) Capacity Building grant funded by NSA for von neyr standing June-September 2007.

Dr. Robert Koza published a book co-edited with L. Perlovsky (Harvard and AFRL) in October 2007. The book is entitled "Evolutionary Invention and Discovery: A Theory of Creativity and Self-Organization" and is part of the Springer Series on Understanding Complex Systems. In addition, Dr. Koza was elected General Chair of the IEEE/INNS 2009 Joint Conference on Neural Networks, to be held in July 2009 in Atlanta or Anchorage. He is also a Program Co-Chair for the 2008 World Congress of Computational Intelligence, to be held in May 2008 in Hong Kong and Shanghai.

In July, Dr. Vinthuly Phan received a Donovon Travel Award from the University of Memphis to attend the 2007 International Conference on Enterprise Information Systems and Web Technologies in Orlando, FL.

Dr. Lao Wang received an NSF grant for "Enabling Future Internet Innovations through Transit Wire." The project aims to develop a new Internet architecture to ensure secure universal network connectivity at the architectural level. The award is from 9/1/2007 to 8/31/2010.

Dr. Wang also received a faculty travel grant from NSF and a grant from the Donovan Travel Enrichment Fund to attend the IEEE ICNP (International Conference on Network Protocols) and NSPSEC (Workshop on Secure Network Protocols) in Beijing, China, in October. In addition, Dr. Wang served on the TPC of the IEEE INFOCOM 2008 conference.

Dr. Qishi Wu received an NSF grant entitled "Towards Robust and Self-Healing Heterogeneous Wireless Sensor Networks," from September 2007 to August 2010. The main goal of this project is to improve the performance of heterogeneous sensor networks (HSNs).

Dr. Wu's ongoing ONR project has also been extended with an additional $10K grant. This project, "Design of Control Plane and Transport Protocols for Ultrascience Net," involves improving the experimental 10 Gbps extensions to UltraScience Net (USN) from Sunnyvale to the 2007 Supercomputing Conference site.

A full list of recent publications & professional activities can be found at www.cs.memphis.edu/fall07/
Mentat Program Launches

As of November, a novel metadate society was formed called the Mentat Corps. Headed by Dr. McCayley, this undergraduate student group’s primary purpose is to help any CS students who need assistance and to be role models for beginning CS majors. Plans for spreading the Mentat Corps nationally include a partnership with the award-winning MentorNet.org along with sponsorship from local and national corporations. Membership in the Mentat Corps is highly selective. Students, if you need help or advice on anything from data structures to balancing work and school, just look for the Mentat Corps pins.

Congratulations to the first set of inductees into the Mentat Corps:

Xiaohuan Cai
Roy Crowder
Kenneth Gibbs
Thomas Hilton
Brian Kennedy
Sean McKenna
NaVA Smith

ACM Student Chapter Events

The ACM student chapter has hosted two events so far this fall: the traditional pizza and movie night and an Open-Source Software Showcase discussing popular projects like Cygwin and Eclipse. Both events were well attended by students.

Upcoming ACM events include a LAN party and talks by speakers from industry including International Paper and Cook Systems. The ACM student chapter remains dedicated to its principles of career development, education enhancement, and student networking. For more information please visit acm.es.memphis.edu

CS Ombudsman

Ph.D. student Joe Berleson is the department's new Ombudsman. The Ombudsman takes the initiative to contact and assist, on a one-on-one basis, undergrad CS students whose class performance or co-curricular activities have suffered.

Like the Mentat Corps described above, this program was developed as an effort to improve student retention. Although a similar program exists at the university level, the CS department felt that having its own Ombudsman would allow for more personalized attention.

Summer / Fall 2007 Graduates

Ph.D. Student

Andrew J. Neel (Summer 2007)
Dissertation Title: “Memory Systems for DNA Computers”
Major Advisor: Dr. Max Garzon
Current Employment: FedEx Corp.

B.S. Students

Wojciech Biernacki
Wesley Anderson Field
Ernest Ardell Howry
Tyler W. Royal
Thomas W. Sellers

Upcoming Events

The CS department’s Industrial Advisory Board meeting will be held on November 30, 2007, in the FIT Fishbowl.

The Center for Information Assurance will be hosting “SAIS Security Essentials Bootcamp Style,” a six-day course from December 10-15, 2007, at the FedEx Institute of Technology. For more information or to register, please visit www.memphis.edu/releases/sos07/sais.htm

The First Conference on Artificial General Intelligence (AGI-08) will be held March 1-3, 2008, at the FedEx Institute of Technology. The conference is co-sponsored by the Computer Science Department and the Institute for Intelligent Systems in cooperation with AAAI. Dr. Franklin is the general chair, and Dr. McCayley and Sidney JPMO are in charge of local arrangements. For more information, please visit www.agi-08.org

The annual CS Research Day is tentatively scheduled for March 21, 2008. Research Day allows students to present and discuss their current research with faculty members.

The Second International Research Workshop on Advances and Innovations in Systems Testing will be held on the U of M campus from May 4-6, 2008. The workshop is sponsored by the System Testing Excellence Program (STEP). Dr. Shiva is the general chair, Dr. Rus is the program and workshop co-chair, and Dr. Sherrill is the registration co-chair. For more information please see STEP.ms.stateconference/