

## From the Chairman



The Ann Arbor (Michigan) News recently reported that "after enrollment in computer science classes plummeted in the early part of the decade following the implosion of the dot-com bubble, students are starting to refill seats. Educators attribute this interest to booming demand for computer scientists and engineers in a

weak economy and the ever-increasing cool factor of certain technologies, such as cyber security and gaming... Double-digit growth of jobs in computer-related fields is expected to continue (26.4% between 2006 and 2016 from about 7.5 million to 9.5 million jobs)." A recent nationwide survey indicated that software engineering (first) and IT consulting (seventh) are among the top ten jobs in the coming decade. Our CS curriculum here at the University of Memphis now covers software engineering, gaming, networks, and security. Plans are underway to enhance offerings in these areas.

Our Mentat program (where selected senior students act as mentors to freshmen and sophomores) is active and well received. The ACM student chapter activities and the recently held Fall Social have added to the extracurricular lives of our students.

It is my pleasure to note that our faculty research has found a new outlet in the TV media. We have declared this year as the Year of Alumni and have started enhancing alumni relations with the Department. There are reports on these items elsewhere in this newsletter.

While excelling in teaching, research, and service to the community, our aim is to provide the most enjoyable learning environment for our students. I invite our alumni to contact us - we are always anxious to know of your accomplishments.

Happy Holiday Season and a Happy New Year (in advance)!

*Dr. Sajjan Shiva*

## Faculty Achievements

**Dr. Dipankar Dasgupta** has published a new book, *Immunological Computation: Theory and Applications*. The book is published by Auerbach Publications and is co-authored with Fernando Nino. It presents up-to-date immunity-based computational techniques.

Dr. Dasgupta was also a keynote speaker at the ECSIS Symposium on Bio-inspired, Learning, and Intelligent Systems for Security (BLISS), held on August 5 in Edinburgh, Scotland. His talk was on "Computational Intelligence in Cyber Security."

**Dr. Stan Franklin** has published the proceedings of the First Conference on Artificial General Intelligence (AGI-08) as a book (Pei Wang, Ben Goertzel, and Stan Franklin, *Artificial General Intelligence 2008*, Amsterdam: IOS Press).

**Dr. Max H. Garzon** recently published two books, *Natural Computing: An International Journal*, and *DNA Computing*, Lecture Notes in Computer Science LNCS 4848. Both books were co-edited by Dr. Hao Yan of Arizona State U. and published by Springer-Verlag.

*A full list of recent publications & professional activities can be found at*  
**[www.cs.memphis.edu/fall08/](http://www.cs.memphis.edu/fall08/)**

## Department News

### CfIA Hosts Cyber Security Expo



As part of National Cyber Security Awareness Month in October, the University of Memphis Center for Information Assurance (CfIA) hosted the 1st Annual Cyber Security Expo on Thursday, Oct. 16, at the FedEx Institute of Technology. Over 120 attendees from industry, local and national law enforcement, and academia gathered to discuss the latest cyber security threats and trends across the nation.

Daniel J. Larkin, chief of the FBI's Cyber Initiative and Resource Fusion Unit and former FBI unit chief of the Internet Crime Complaint Center, kicked off the Expo with a keynote on "Emerging Trends in Cyber Security." Lectures and sessions were presented throughout the day in The Zone, on topics ranging from cyber security training to open-source computer forensic tools.

The event included time for visiting the numerous valuable exhibits, networking, eating, and visiting. The Expo was definitely not a stuffy affair - many attendees even took part in the "Rock Band" exhibition that was set up in the collaboration area the entire day.

During this National Cyber Security Awareness Month, the CfIA also organized many outreach activities and hosted a professional security training session, "SANS 542: Web Application Penetration Testing In-Depth," from Oct. 20-23.

### Year of the Alumni

This year 2008-9 has been designated as the **Year of the Alumni**. Among many activities, a virtual community is being created at [www.cs.memphis.edu/alumni](http://www.cs.memphis.edu/alumni). All students can join upon graduation and enhance their network with alumni already in the workforce.

**Dr. Robert Kozma** received a 2008 Dunavant Professorship from the College of Arts & Sciences. As part of the award, Dr. Kozma will receive \$5000 per year for 3 years to support his research programs.

In addition, Dr. Kozma and **Dr. Lan Wang** are on a team of five U of M faculty members who recently received a grant from the FedEx Institute of Technology to study Complex Warfare Systems. This project takes advantage of new sensor technologies to create a decision support system for use in a warfare scenario.

**Dr. Santosh Kumar** received an Early Career Research Award from the College of Arts and Sciences. As PI of multidisciplinary, multi-university teams, he has recently won NSF and NIH grants worth over \$2.5M. This year Dr. Kumar was awarded a new grant (2 years, \$268k) from the FedEx Institute of Technology to make his AutoWitness (burglar tracking) system field-deployable.

Dr. Kumar was also invited to speak at the First IEEE Workshop on the Theory of Ad-Hoc and Sensor Networks (ThASN'08), held in conjunction with the IEEE MASS conference in Atlanta on September 29.

**Dr. Vinhthuy Phan** presented a talk titled "Management of Bioinformatics Data and Tools" at the Software Showcase organized by the Office of Technology Transfer, held in October at the FedEx Institute of Technology.

### News in Brief

**Dr. Kurt Plarre** joined the Wireless Sensors and Mobile Ad Hoc Networks (WiSe MANet) Lab as a postdoc. Dr. Plarre received his Ph.D. from the U. of Illinois at Urbana-Champaign in Electrical and Computer Engineering in 2006. He completed a two year postdoctoral fellowship at the U. of California at Santa Barbara prior to joining us.

The department and the CfIA sponsored an online referendum for the Student Government Association to amend their constitution and poll for names for the new student building. Results are at [electsga.memphis.edu](http://electsga.memphis.edu)

The Applied CS major is seeing renewed interest from several areas. In Spring 2009, at least 6 new students will be joining the 15 or so majors already in the program.

### On the News...



The Computer Science Department has been highlighted on FOX13 Memphis this semester, with coverage on activities from **Dr. Dipankar Dasgupta's** Center for Information Assurance (CfIA) and **Dr. Santosh Kumar's** Wireless Sensors and Mobile Ad Hoc Networks (WiSe MANet) Lab.

In an August newscast, Dr. Dasgupta and Tammy Alexander from the CfIA discussed the potential security risks of websites offering features such as banking services.

In an October story, Dr. Kumar discussed his AutoWitness project, which uses wireless mote technology to automatically alert law enforcement of stolen items. AutoWitness also provides the ability to track these items, making them easier to recover.

For links to the full newscasts, visit the CS News website at [www.cs.memphis.edu/index.php?p=news](http://www.cs.memphis.edu/index.php?p=news)

**Dr. Vasile Rus** received an NSF grant to organize the Question Generation Shared Task and Evaluation Challenge, held at NSF in Arlington, VA, from Sept. 25-26. The workshop aimed primarily at establishing a community consensus with respect to a shared task evaluation campaign on Question Generation. For more information visit [www.questiongeneration.org](http://www.questiongeneration.org)

**Dr. Lan Wang** and Dr. Daniel Massey (Colorado State University) co-chaired the Technical Program Committee of the Fourth Workshop on Secure Network Protocols (NPSec 2008), held in Orlando, FL, on Oct. 19.

In addition, Dr. Wang and Nurcan Tezcan (North Carolina State University) organized an N<sup>2</sup> Women (Networking Networking Women) panel at ACM SIGCOMM 2008. The panel had a record turnout of 48 female participants. A program supported by the IEEE Communications Society and Microsoft Research, N<sup>2</sup> Women aims to foster connections among the under-represented women in computer networking and related research fields.

**Dr. Qishi Wu** received a DOE STTR Phase I award, "End-System Performance-Adaptive Peak Link Utilization Transport Over Dedicated Lambda Grids." The award is for \$60,000 and will extend from June 30, 2008, to March 29, 2009.



# Student Highlights

## CS Social 2008

The 5th Annual CS Social attracted nearly 100 people to the Pink Palace Museum, including 2-year-old Mia, APCS student **Zack Pennington's** *Little Epsilon* (pictured at right). Exotic foods and desserts from represented regions were handy for the tasting. Many in attendance were wearing and enjoying costumes of their own, or won as door and talent prizes for their music, dance, and/or showmanship.

It was a great show including truly scary episodes portraying departmental life and exposing hidden talents and faces from students, faculty, and their families. We are grateful to all presenters for taking the time out to have some fun and share their food and fanfare. We can't wait to see the CS social next year. What will you come up with next?



## ACM Student Chapter Events



This semester the ACM Student Chapter, led by President **Rodrigo Silva**, held two major events. The first was an informal Wii tournament, held on Friday, Sept. 26. Several dozen students attended the event over the course of the evening, and pizza and fun were had by all!

The second event was a talk by **Alan Morris** from Sun Microsystems, held on Friday, Nov. 7. Alan discussed several topics of interest to Computer Science students, including access to free student training, becoming a Sun-Certified Developer, and applying for entry-level jobs and internships.

## NetLab Student Activities

The Networking Research Lab (NetLab) led by **Dr. Lan Wang** welcomed a new member, **Yaoqing Liu**, in Fall 2008. Yaoqing has a B.S. degree from Dalian Maritime University in China and is pursuing a Ph.D. degree in Computer Science.

Our undergraduate research assistant, **Ernest McCracken**, presented his research "NetViews: Real Time Visualization of Internet Topologies Through Peered Vantage Points" at the university's Works in Progress Symposium on Nov. 5. This Symposium is for undergraduate students to present their research projects to peers in their field. Ernest has also been accepted to present the same project at the Tennessee Collegiate Honors Council Annual Conference and invited to apply to the National Conference on Undergraduate Research (NCUR) this year.

NetLab members have recently published in two competitive conferences, UbiComp and ACM Hotnets.



NetLab members (left to right): Dr. Lan Wang, Ernest McCracken, Jake Qualls, Yaoqing Liu

## Fall 2008 Graduates

### M.S.

Vivek Varma Datla  
Yi Gu  
Vasudha Koya  
Rahul Varma Mudunuri  
Silpa Potana  
Hima Bindu Puppala  
Venkatesh Karuveppampatti Rangasamy  
Raluca Stoian  
Sowmya Sree Veeravatnam  
Natasha Velaga  
Shekhar Vemuri  
Ramjee Yerneni  
Wei Yin

### B.S.

Roy Elton Crowder, III  
Sar Haidar  
Timothy Henry  
Luke Jonathan Kende  
Brian Kennedy  
Michael Lee

## CS Colloquium

The CS Colloquium this semester included talks from distinguished visiting researchers as well as University of Memphis faculty.

**Anne Benoit** and **Yves Robert**, Ecole Normale Supérieure de Lyon, France  
"Scheduling for Cluster and Grids"

**Evan Drumwright**, University of Memphis  
"Continuous Collision Detection for Rigid Bodies"

**Lee M. Hively**, Oak Ridge National Lab  
"A Vision for Next-Generation Computing"

**Max H. Garzon**, University of Memphis  
"Synthetic Biology: Recent Developments and New Directions"

**Raghu Nandan Sengupta**, Indian Institute of Technology, Kanpur  
"Use of Asymmetric Loss Functions in Sequential Estimation Problems for Multiple Linear Regression"

**Sajjan Shiva**, University of Memphis  
"Knowledge Management in Distributed Software Engineering Environments"

**Victor Jin**, University of Memphis  
"Modeling In Vivo Protein-DNA Interactions from ChIP-based High Throughput Data"

**Vinhthuy Phan**, University of Memphis  
"Algorithmic Gene Design"

**Bruce Weide**, Ohio State University  
"Progress on the Verified Software Grand Challenge"

**Yuanshun Dai**, University of Tennessee, Knoxville  
"Modeling and Self-Healing Mechanism in Large-Scale Networking Systems"

## Upcoming Events

The **Fifth Annual CS Research Day** will be held in mid-Spring 2009. More details will be posted on the Computer Science website as the date approaches. However, it's never too soon to start thinking about what you'd like to present!

The Computer Science Department will be hosting the 2009 **Programming Challenge** in Spring 2009. As in past years, this event will give area high-school students the opportunity to work in teams to develop a game, which they will then present at the U of M. Programming Challenge judges have included Computer Science faculty as well as local members of industry.

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