

### Spring 2014 Newsletter

#### Chair's Message



It is with a heavy heart that I bid farewell this semester to two stalwarts of the Department: Profs. Stan Franklin and David Lin. Stan has been with

the Department since well before its inception, and his AI expertise has been instrumental in increasing our national and international reputation. David has been with us for a substantial amount of time as well, and he has served in the critical role of graduate program coordinator since 2002. From scheduling student project defenses to making GA assignments, he has truly done it all, and he will be greatly missed.

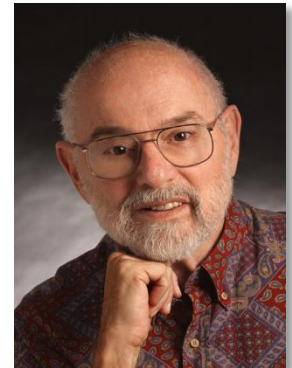
With our steadily increasing enrollment (particularly in the undergraduate program), I am happy to extend a warm welcome to two new faculty members for Fall 2014: Dr. Zhuo Lu as a tenure-track Assistant Professor, and Dr. Bill Baggett as a Visiting Assistant Professor. We are expecting to conduct a search in the fall for one additional faculty position as well.

Even as our circumstances change, the Department will continue working towards our goals of excellence in teaching, research, and service. Onward and upward!

**Sajjan G. Shiva**  
Professor and Chair

#### Farewell to Profs. Franklin and Lin

**Prof. Stan Franklin** retired at the end of the Fall 2013 semester, after over 40 years on the U of M faculty. He was a winner of the U of M's Eminent Faculty Award, and was a founder of its Computer Science Department and of its Institute for Intelligent Systems. His research is motivated by wanting to know how minds work—human minds, animal minds and, particularly, artificial minds. His book *Artificial Minds*, published by MIT Press and still in print, was a primary selection of the Library of Science book club, and has been translated into Japanese and Portuguese. As a Professor Emeritus, Dr. Franklin has continued to be involved with his Cognitive Computing Research Group.



**Prof. King-Ip (David) Lin** will be leaving the Department this summer to take a faculty position at Baylor University in Waco, TX. Dr. Lin joined the Department in Fall 1996 and has been the graduate program coordinator since 2002. His research interests involve many aspects of data: from database systems to data mining to applying data management techniques to medical domains. He has done work in organizing and retrieving high-dimensional data, data reduction (FastMap) and other data mining techniques, and analysis of doctor-patient interaction data.

#### New Faculty Hires for Fall 2014

**Dr. Zhuo Lu** will join the Department as a tenure-track Assistant Professor. Dr. Lu comes to us from Intelligent Automation, Inc. in Rockville, MD, where he has worked as a Research Scientist since receiving his Ph.D. in Computer Engineering from North Carolina State University in Fall 2013. He will bring his expertise in mobile computing and cyber security, with focuses on attack analysis, performance evaluation, and countermeasure design in computer and mobile networking systems.

**Dr. Bill Baggett** will join the Department as a Visiting Assistant Professor. Dr. Baggett holds dual M.S. degrees in Computer Science and Psychology and a Ph.D. in Cognitive Psychology from the University of Memphis. He has worked on the development of physics tutoring software for the U of M's Institute for Intelligent Systems, and he has several years of experience teaching undergraduate and graduate courses as an adjunct professor for the Computer Science Department.

## Computer Science Research Day

The tenth annual Computer Science Research Day was held on Friday, April 4. This event gives our students a chance to share their work with faculty and fellow students, as well as learn about the work being done by other research groups. Students gain valuable experience presenting their work, a crucial skill for professional conferences and workshops. Awards were given to the top three entries in the presentation and poster categories. **Profs. Timothy Hnat** and **Santosh Kumar** were the organizers of the 2014 event.

## Faculty Happenings

**Prof. Dipankar Dasgupta** gave two presentations on cyber security. The first was an invited talk for the Mid-South Association of Contingency Planners (MSACP)'s monthly meeting, held on February 12 at the U of M University Center. Prof. Dasgupta also gave a poster presentation on puzzle based learning in cyber security at EDUCAUSE Connect: Chicago on March 18. Details are available at <http://www.educause.edu/events/educause-connect-chicago/2014/using-puzzle-based-learning-cybersecurity-education>.

**Prof. Santosh Kumar** has recently given several high-profile talks about his work on bio-sensors and mobile health. Last September, he was invited to present on bio-sensors at the White House's Behavioral Health IT Innovations Conference. As part of this presentation, the White House prepared a five-minute video introduction to his ongoing AutoSense project, available at <http://www.youtube.com/watch?v=zRUD8zNh7HY>. Prof. Kumar also gave talks in December at UC San Diego (as part of the CSE Distinguished Lecture Series), and at Duke Medical School.

**Prof. Sajjan Shiva** delivered invited lectures on "A Holistic Approach to Cyber Security" and participated in research discussions with faculty and graduate students at Northwest University (Xian, China) and Zhengzhou University (Zhengzhou, China) during an April 17-24 trip.



**Prof. Sajjan Shiva** accepted an invitation from the Computing Accreditation Commission (CAC) of the Accreditation Board for Engineering and Technology (ABET) to serve as a Commissioner effective year 2014-15.

**Prof. Lan Wang** is on a team of researchers from eight institutions that received a \$5 million NSF grant to further develop, deploy, and test Named Data Networking, a novel future Internet architecture. Named Data Networking Next Phase (NDN-NP) is led by researchers at UCLA, with collaborators at UIUC, UCSD, Washington University, University of Michigan, Colorado State University, University of Memphis, and University of Arizona. The NDN project is partnering with Open mHealth, a non-profit patient-centric health ecosystem, and with UCLA Facilities Management, which operates the second largest Siemens building monitoring system on the West Coast, to test how its system works in real-world settings. More information is available at <http://www.named-data.net>. Dr. Wang's involvement with the NDN project led to an invitation for her to serve as a speaker on the "Whether NDN: Doubts, Tough Questions, Progress, and Challenges" panel at IEEE INFOCOM 2014 in Toronto, Canada.

## Research Day Winners (Presentations)

1. **Syed Monowar Hossain** - Identifying Drug (Cocaine) Intake Events from Acute Physiological Response in the Presence of Free-living Physical Activity (Advisor: Prof. Santosh Kumar)
2. **Austin Henley** - The Patchworks Code Editor: Toward Faster Navigation with Less Code Arranging and Fewer Navigation Mistakes (Advisor: Prof. Scott Fleming)
3. **Md Mahbubur Rahman** - Are We There Yet? Feasibility of Long-term Stress Assessment via Physiological Sensors in Field (Advisor: Prof. Santosh Kumar)

## Research Day Winners (Posters)

1. **Sudip Vhaduri** - Estimating Drivers' Stress from GPS Traces (Advisor: Prof. Santosh Kumar)
2. **Hilloi Sarker** - Assessing the Availability of Users to Engage in Just-in-Time-Intervention in the Natural Environment (Advisor: Prof. Santosh Kumar)
3. **Poonam Dharam** - Controller-Switch Assignment for Load Balance in Software-Defined Networks (Advisor: Prof. Chase Wu)

## Alumni Updates

**Harkeerat Bedi** (Ph.D. 2013) is currently working as a Core Software Engineer on the R&D team at Verizon EdgeCast. At the U of M, Harkeerat was part of Prof. Sajjan Shiva's Game Theory in Cyber Security research group. He describes his U of M experience as "very fruitful."

## Programming Challenge Winners

1. **Collierville High School** (William Yao) - 6 out of 6 problems solved
2. **Evangelical Christian School** (David Reddick, Ian Romines) - 5 out of 6 problems solved
3. **Houston High School** (Ryan Mitchell, Zach Smith, Brandon Stone) - 3 out of 6 problems solved



## Programming Challenge for High-School Students

The Department held its annual Programming Challenge for high-school students on Saturday, April 26. This year's event was in the style of an ACM programming contest; students worked in teams to solve a set of programming problems. Teams from Collierville High School, Evangelical Christian School, Germantown High School, Houston High School, and the Marion (AR) School District were in attendance. **Mr. Kriangsiri Malasri** and **Prof. Vinhthuy Phan** were the organizers of the event.



## ACM Activities

The ACM student chapter sold custom-designed T-shirts this spring as a fundraiser. The 2014-2015 officers were also elected:

President – **Kyle Mallard**

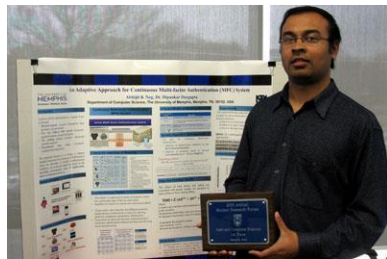
Vice President – **Jordan Delong**

Treasurer – **Herve Aniglo**

Secretary – **Marcus Muller**



## Student News



Ph.D. student **Abhijit Nag** received 1st place in the Math and Computer Science category at the U of M's Student Research Forum held on March 31. Abhijit presented his work with **Prof. Dipankar Dasgupta** on multi-factor authentication. Abhijit's project focuses on describing a framework for continuous authentication where authentication modalities are selected adaptively by sensing the environment, which includes the device and communication media.

A team from the University of Memphis won first place in the Cyber Defense One Vulnerability and Exploit Competition (Capture the Flag) held at the Middle Tennessee Cyber Summit on May 5-6. They competed against 11 teams, including professionals from the Tennessee DHS and Splunk. The Memphis team consisted of graduate students **Kul Prasad Subedi** and **Charles Lancaster Jr.** and faculty advisor **Prof. Dipankar Dasgupta**.

The U of M sent two teams of undergraduates to the CCSC Mid-South programming contest held at the LeMoyne-Owen College on April 4. The team members were **Qi Chen, Keenan Diggs, Shawn Hickman, Josh Pang, Cameron Roe, and Sean Snell**, with alternate **Jake Sutton**. **Prof. Vinhthuy Phan** served as the coach and faculty sponsor, while **Mr. Kriangsiri Malasri** was the contest co-chair on the CCSC Mid-South steering committee. There were 19 teams from 11 schools participating in this year's contest. One of our teams was able to solve 5 of the 7 contest problems, earning them a 6th place finish.



Undergraduate students **Ashlesh Gawande** (from the ECE department) and **Marc Badian** recently joined **Prof. Lan Wang's** Networking Research Lab. This spring, the lab has publications appearing in ACM SIGCOMM *Computer Communications Review* and IEEE *Network*.

## Spring 2014 Graduates

### B.S.

James Antoine  
Kenneth Armstrong  
Kenneth Brown  
Ian Burns  
Jordan Davis  
Benjamin Deming  
Matthew Harding  
Thomas Hipps

Kylie Jo Infield  
Josh Jenkins  
Channy Kong  
Jason Lemke  
Maria Luong  
Samuel Morgan  
Matthew Roberson\*  
Josh Pang\*\*

J. Adam Patrick  
Nic Smith  
Andrew Swistak  
Katrina Vincent  
Michael Winters\*\*

\* COMP 2nd major  
\*\* COMP minor

### M.S.

A.K.M. Mahmudul Hoque  
Kazi Zaman

### M.S. Applied Computer Science

Brandie White

## Where Are They Going?

**Benjamin Deming** is a developer at Dropcam in San Francisco, a cloud-based Wi-Fi video monitoring service.

**A.K.M. Mahmudul Hoque** and **Kazi Zaman** are continuing their studies at the U of M as Computer Science Ph.D. students.

**Kylie Jo Infield** and **Andrew Swistak** are working as Rails developers at lensrentals.com, a Cordova-based company that rents photography equipment.

**Maria Luong** is continuing her studies at the U of M as a Computer Science graduate student in the accelerated B.S./M.S. program.

**Josh Pang** is pursuing an M.A. in Liberal Studies at the U of M.

**Matthew Roberson** is pursuing a Ph.D. in Physics at the University of New Hampshire.

**Brandie White** is working for defense contractor Raytheon.

## Spring 2014 CS Colloquium

- Jan. 31** [Supporting Reappropriation of Information](#)  
**Moushumi Sharmin**, Research Assistant Professor, Department of Computer Science, University of Memphis
- Feb. 7** [Programmer, Interrupted: Data, Brains and Tools](#)  
**Chris Parnin**, Research Scientist II, Georgia Tech Research Institute
- Feb. 14** [Computational Modeling of Human Behaviors from Mobile Sensors: A Case Study of Modeling Cocaine Use Response in ECG](#)  
**Santosh Kumar**, Associate Professor, Department of Computer Science, University of Memphis
- Feb. 21** [Decoding the Cancer Genome by Whole Genome Sequencing](#)  
**Jinghui Zhang**, Computational Biology, St. Jude Children's Research Hospital
- Feb. 28** [Technology Innovation in the Mortgage Industry](#)  
**John Marsalis and Dan Nemesek**, FNC, Inc.
- Mar. 7** [Demystifying Big Data](#)  
**Peter Aiken - ACM Distinguished Speaker**, Associate Professor, Department of Information Systems and Institute for Data Research, Virginia Commonwealth University
- Mar. 21** [Socially Assistive Robotics](#)  
**Brian Scassellati**, Professor, Computer Science, Cognitive Science, and Mechanical Engineering, Yale University
- Mar. 28** [Dive into Big Data](#)  
**Vivek Datla, Nopal B. Niraula, Kul Prasad Subedi, and Rajendra Banjade**, Ph.D. Students, Department of Computer Science, University of Memphis
- Apr. 11** [Innovization: Discovery of Innovative Solutions through Multiobjective Combinatorial Optimization](#)  
**Kalyanmoy Deb**, Koenig Endowed Chair Professor, Department of Electrical and Computer Engineering, Michigan State University
- Apr. 18** [Predictive Models of Programmer Navigation](#)  
**Alka Singh and Austin Henley**, Ph.D. Students, Department of Computer Science, University of Memphis
- Apr. 25** [How Minds Work: The LIDA Cognitive Model and Its Computational Architecture](#)  
**Stan Franklin**, Professor Emeritus, Department of Computer Science, University of Memphis

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