

Fall 2015 Newsletter

Chair's Message



With the change in department leadership this fall, we have had a very hectic but exciting semester. We began several initiatives aimed at making the

Department more transparent and encouraging student involvement. These include streamlining our GA selection process, working to standardize faculty evaluation guidelines, revising our Industry Advisory Board, and offering required courses more frequently. Our undergraduate ACM student chapter took a leadership role in organizing the annual CS Social this year, and we established a new Graduate Student Association to serve as a liaison between faculty and graduate students.

Through it all, our faculty and students have continued to excel. Our faculty have received over \$2M in major research grants this fall, with several smaller internal grants as well. Our students have increased the Department's reputation beyond Memphis by competing and placing in a number of computer science contests.

Looking ahead, we are currently recruiting for several tenure-track positions to continue growing the Department. We anticipate complementing our existing strengths to place ourselves in an even better position for the future.

Prof. Dipankar Dasgupta
Interim Chair

Prof. Kumar Named Chair of Excellence



Prof. Santosh Kumar has been named the Lillian & Morrie Moss Chair of Excellence in Computer Science. Authorized by the Tennessee General Assembly in March, this is the first state-endowed chair of excellence in computer science to be established in Tennessee. "Dr. Kumar is a recognized national leader in the area of mobile health," said Prof. Dipankar Dasgupta, Interim Chair of the Computer Science Department. "I am delighted that he has received this honor for his ongoing outstanding achievements that exemplify imagination, courage, and high ability for advancing medical informatics research." Prof. Lan Wang, Associate Chair of the department, added, "We are very proud of Dr. Kumar's achievements and excited to have the department's first endowed chair of excellence."

New Research Grants for AY 2015

- **Dipankar Dasgupta**, Developing an Adaptive Multi-Factor Authentication Methodology, NSA, \$240K
- **Dipankar Dasgupta**, Homeland Security National Training Program, FEMA, \$447K
- **Santosh Kumar**, ROBAS: A Multimodal Sensor System for Remote Assessment of Oral Health Behaviors (R01), NIH, \$500K
- **Santosh Kumar**, Socioeconomic Status, Stress and Smoking Cessation (R01), NIH, \$665K
- **Zhuo Lu**, A Proactive Perspective on Preventing Network Inference: Shifting from Optimized to Dynamic Wireless Network Design, NSF, \$100K
- **Zhuo Lu**, An Infrastructure for Designing and Testing High-Fidelity Wireless Network and Security Solutions, ARO, \$100K
- **Vasile Rus**, Exploring Student Behavior Across Human Automated Tutoring Systems: Foundation for a Blended Approach, DoD, \$263K

Several CS faculty also received research grants from the FedEx Institute of Technology's CAST (Cluster to Advance cyber Security and Testing):

- Mohd Hasan Ali and **Dipankar Dasgupta**, Investigation and Testing of Cybersecurity - Protective Relay
- **Zhuo Lu**, **Dipankar Dasgupta**, and Su Chen, Automated Document Classification - Sensitive Information Disclosure
- **Sajjan Shiva**, Cloud Computing Security and Privacy Assessment
- Naveen Kumar, **Deepak Venugopal**, Robin Poston, and **Dipankar Dasgupta**, Security Online - Healthcare Communities
- **Lan Wang**, Exploring a Data-Centric Approach to Securing Smart Homes

CS Names in the News

Prof. Santosh Kumar and alumnus Dr. Sidney D'Mello were recently featured in two online news articles. [MobiHealthNews](#) published an article about Prof. Kumar's work on the ongoing Mobile Sensor Data to Knowledge (MD2K) initiative. The project's first year has focused on developing an open-source smartphone software platform to allow users to "collect, analyze, visualize, and interpret mobile sensor data for health."



[MedicalXpress](#)'s article focuses on the work of Dr. Sidney D'Mello (pictured), a U of M Ph.D. graduate who is now an Assistant Professor of Psychology and Computer Science and Engineering at Notre Dame. He and his team are developing software that determines when a person loses focus on a task and helps them regain that focus; they are hoping to apply it towards STEM education.

mHealth Lab Has Three Papers Accepted at UbiComp

The Mobile Health Systems Lab had three full papers accepted to this year's prestigious ACM UbiComp conference. "It is the first time that we have had 3 papers accepted at a top-tier conference in a single year," said lab director Prof. Santosh Kumar. "We will remember 2015 as a memorable year in our lab's research journey."

CS Team Wins SemEval-2015 Semantic Textual Similarity Competition

A team from Prof. Vasile Rus's Language and Information Processing Lab has won the semantic textual similarity competition at [SemEval-2015](#), the premier forum for semantic evaluation. The team, named NeRoSim, consisted of Ph.D. students **Rajendra Banjade**, **Dipesh Gautam**, **Nabin Maharjan**, and **Nobal Niraula**, along with postdoctoral fellows **Dr. Mihai Lintean** and **Dr. Dan Stefanescu**. They participated in two tasks: the English semantic textual similarity (STS) task and the interpretable STS task, achieving winning results in both. Competitors at the event included teams from the University of Colorado at Boulder, Samsung Research America, Hong Kong University of Science and Technology, East China Normal University, Japan Advanced Institute of Science and Technology, Australian eHealth Research Centre, Budapest University, and the University of Trento.

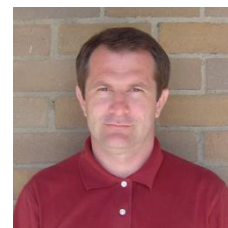
Mid-South Cyber Security Summit



The Center for Information Assurance hosted the annual Mid-South Cyber Security Summit on Friday, October 16. The theme of this year's event was social engineering attacks. A variety of speakers from Memphis and beyond were featured, including **Frederick Sheldon** (Professor and Chair of Computer Science, University of Idaho), **Natalie Sjelin** (Assoc. Director of Training, University of Texas at San Antonio), **Timothy Marsh** (FBI of Memphis), **Vincent Perryman** (Attorney, Law Offices of J. Vincent Perryman), **Christine Kubecka** (CEO, HypaSec Security), **Wiam Younes** (Adjunct Faculty, Carnegie Mellon University Heinz College), **Michael Duren** (President and Owner, Cyber Moxie LLC), and **Suzanne H. Miller** (Partner, Vaco Risk Solutions).

Prof. Rus Wins Best Paper Award at ICSLE 2015

Prof. Vasile Rus (pictured) and postdoc Dr. Dan Stefanescu won the Best Paper Award at the 2nd



International Conference on Smart Learning Environments (ICSLE 2015) for their paper entitled "Towards Non-Intrusive Assessment in Dialogue-based Intelligent Tutoring Systems." ICSLE is an upcoming leading conference in the area of learning technologies with a highly competitive acceptance rate which this year was at 23% for full papers.

Networking Research Lab Updates

Prof. Lan Wang, lab director, gave a talk on "Architecture Development and Routing Design in Named Data Networking" at the Department of Computer and Information Science, University of Mississippi on Oct. 28 (<http://cs.olemiss.edu/node/435>).

Prof. Wang also received a \$12K research grant from the FedEx Institute of Technology for "Secure Information Sharing among Autonomous Vehicles."

Vince Lehman, **Ashlesh Gawande**, and **Minsheng Zhang** participated in the First NDNcomm Hackathon on Sept. 26 and 27 at UCLA. Minsheng's team won the first prize in the hackathon.

Vince Lehman and **Minsheng Zhang** presented "Hyperbolic vs. Link-State Routing in ICN" and "PartialSync: Synchronizing a Partial Namespace in NDN," respectively, at the Second NDN Community Meeting on Sept. 28-29.

We announced the release of Mini-NDN v0.1.1 on Nov. 4. Mini-NDN is a lightweight networking emulation tool that enables testing, experimentation, and research on the NDN platform. The software can be downloaded at github.com/named-data/mini-ndn.

CS Social

This fall's CS Social, held on Oct. 30, was organized by the ACM student chapter, with live music performed by undergraduate **Shawn Hickman**.



Graduate Student Association

This is the first year of the Department's Graduate Student Association (GSA). The GSA was formed for three primary reasons: to allow students to be part of the department's decision making processes, to support interaction and communication among graduate students and faculty members, and to disseminate information to the graduate student body as a whole.

Our agenda this Fall has been to recruit additional students to serve on the GSA. For the Spring we are working towards hosting a programming competition and assisting with the CS Research Day.

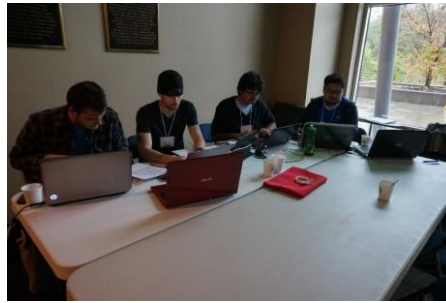
The current GSA leadership consists of **Austin Henley** and **Nazir Saleheen**.

ACM Elections

In a very close election, the ACM student chapter has chosen its officers for the Spring 2016 semester:

President: **Cannon Moyer**
Vice President: **Kyle Kalmon**
Treasurer: **Herve Aniglo**

Student Team Wins 2nd Place at Cyber Defense Competition



A team of four Computer Science students won second place in the prestigious CANSec Cyber Defense Competition, held in Little Rock on Oct. 24. The competition is held annually as a part of the CANSec workshop (formerly KanSec), which has brought together researchers and practitioners in networking and security related fields since Spring 2012. The students competed against Cyber Security teams

from several other universities across the U.S. before winning second place in the day-long competition. During the competition, the teams were asked to oversee a small corporate network, to manage all critical services, and to defend against external attacks. The U of M winning team included two graduate students (**Kul Subedi, Sujit Shrestha**) and two undergraduates (**Robert Edstrom, Nick Gordon**), all of whom are involved with the Center for Information Assurance. "It was a valuable experience, and one I'm very glad to have been a part of," said Robert Edstrom. "I think we all learned a great deal from working as a team." The team also participated and performed well in the CyberSEED national cyber security competition, held at UConn on Oct. 29-30.

Undergraduates Win NSBE Hackathon

Undergraduate students **Herve Aniglo** and **Kareem Dasilva** received 1st place in the first annual hackathon at the National Society of Black Engineers Region 3 Fall Regional Conference. Herve and Kareem took 9 hours (out of a 12 hour time limit) to create the NSBEMobile app, a mobile platform for NSBEconnect which includes analytics, login/registration, mapping, and statistics. They were invited to showcase the app during the upcoming NSBE Annual Convention in March 2016 and to continue working on the app over the summer as an internship opportunity.



Fall Outreach Events

- The Department hosted the annual **Black Girls Code Robotics Expo** on Sept. 19, which allowed attendees to build and program LEGO Mindstorms robots. A reporter from the BBC covered the event for a radio segment.
- As an official chapter of **100 Girls of Code**, the Department held two coding workshops for girls ages 10-18 on Oct. 31 and Dec. 12. Participants used JavaScript to draw and animate various Halloween and holiday-themed designs.
- A reception to welcome **newly admitted U of M Computer Science freshmen** was held on Dec. 10. About 50 students and family members attended.
- The Department's annual **CS Open House** to commemorate the nationwide CS Education Week was held on Dec. 11. About 160 students and teachers from 7 area schools attended the event.
- An **Hour of Code** event to introduce students to programming was held on Dec. 12. The attendees were mostly from the YMCA Multicultural Achievers, a group of Hispanic youth who attend a weekly program with the YMCA that focuses on academic success and college readiness. The students enjoyed playing through several coding games. The campus tour was another treat as most families had never entered a college campus.

Summer and Fall 2015 Graduates

B.S.

Keli Cheng
David Cohen
Spencer Crews
Michelle Daley
Keenan Diggs
Justin Doonan
Michael Hollister

Andrew Hood
David Jacobs
Chella Norvell
Bobby Richmond
Nathaniel Stokes

M.S.

Sindhuja Datla
Maria Luong
Sivakrishna Mangalampalli
Sinchan Roychowdhury
Alka Singh
Anusha Sudini

Ph.D.

Poonam Dharam
Nobal Niraula
Vivek Shandilya

M.S. Applied Computer Science

Qinyu Cheng

Colloquium / Undergraduate Colloquium Talks

- Oct. 9** **Scaling Up Inference & Learning in Markov Logic Networks with Advanced Counting Techniques**
Deepak Venugopal
Asst. Professor, Dept. of Computer Science, University of Memphis
- Oct. 23** **Named Data Networking: An Internet Architecture for the Future**
Christos Papadopoulos
Assoc. Professor, Dept. of Computer Science, Colorado State University
- Nov. 6** **The State of the Art and Science of Virtual Reality**
Adam Jones
Asst. Professor, Dept. of Computer and Information Science, University of Mississippi
- Nov. 20** **Quiet Times, Cones of Silence, and Focus Lights: Insight into the War on Interruptions at ABB**
David Shepherd
Sr. Principal Scientist, ABB Corporate Research
- Sept. 10** **Cyber Security: Explaining the Issues to Executive Management**
Eric Spiegel
Dixon Hughes Goodman
- Sept. 16** **How to Become a Medical Bioinformaticist**
Fatih Sen
Le Bonheur Children's Hospital
- Oct. 14** **Getting the Most Out of Your Integrated Development Environment**
Ernest McCracken
IBM / U of M Computer Science
- Oct. 21** **Cyber Security: Risk and Compliance**
Brian Burns, CISSP, CISA
AutoZone
- Nov. 11** **The Information Security Workforce**
Juan Soto
First Tennessee
- Nov. 18** **Application Security: Building Security In**
Thomas Davis
Manager, Information Security, ServiceMaster

Student Updates

David Cohen accepted a full-time software development position at FedEx in Memphis.

Ph.D. students **Mustafa Hajeer** and **Md Fahad Polash** interned at Intel Corp. over Summer 2015 and continued to work there during the fall.

Maria Luong interned at FNC over Summer 2015. She is taking a semester to travel before considering several full-time offers.

Alka Singh worked at Oak Ridge National Lab this fall and will continue as a Ph.D. student at the U of M.

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