Dr. Dipankar Dasgupta gave an invited talk at a cyber security summit at the University of Wales in Cardiff, UK. The two-day summit was organized by the University of Wales and the MIT Geopolitical Data Center, on whose advisory board Dr. Dasgupta serves. Participants also included delegates from the United Nations, U.S. Department of Defense, Microsoft, and IBM, as well as faculty from Harvard University, the University of Oxford, Boston University, and the University of Central Florida.

Dr. Dasgupta’s Center for Information Assurance hosted an on-campus National Cyber Security Awareness Campaign on March 23, featuring guest speakers from the U.S. Department of Homeland Security and FedEx.

Dr. Dasgupta, pictured below with MIT’s Prof. John Williams, a keynote speaker at the event also organized the IEEE Symposium on Computational Intelligence in Cyber Security (CICS) from April 11-15 in Paris (www.ieee-scc.org/2011/cics-2011)

Dr. Sidney D’Mello, currently a research assistant professor at the U of M Institute for Intelligent Systems, will join the University of Notre Dame in the Spring of 2012 as an Assistant Professor in the departments of Computer Science and Engineering (CSE) and Psychology. Dr. D’Mello received his Ph.D. in Computer Science from the University of Memphis in 2009 under the mentorship of Stan Franklin (Computer Science) and Art Graesser (Psychology). His primary research interests are in the cognitive and affective sciences.

Dr. Stan Franklin’s AI research was featured in an issue of New Scientist magazine. The article focuses on LIDA (Learning Intelligent Distribution Agent), a software agent based on global workspace theory that attempts to simulate the human brain’s ability to process its environment and associate the sensed information with long-term memory. The hypothesis is that taken as a whole, these cycles result in what we know as consciousness. The paper on which the New Scientist article was based (“The Timing of the Cognitive Cycle”) is available online through the Public Library of Science at www.plosone.org

Dr. Max Garzon was invited to serve on the TPCs of several premier conferences, including DNA17 (DNA Computing and Molecular Programming) and ICMN’11 (Conference on Neural Networks).

Dr. Santosh Kumar was invited to speak at the NSF Workshop on Pervasive Computing at Scale. Dr. Kumar is also chairing a national meeting on “mHealth Evidence” co-organized by the Robert Wood Johnson Foundation, McKesson Foundation, National Science Foundation, and National Institutes of Health. In addition, Dr. Kumar is co-chairing the TPC of the 1st ACM Workshop on Mobile Systems, Applications, and Services for Healthcare (mHealthSys) hosted at the ACM SenSys 2011 conference. He is also co-chairing the TPC of the NetHealth workshop and is vice-chair of the TPC of the 2011 International Conference on Mobile Ad Hoc and Sensor Networks.

Dr. Andrew Raji, a postdoctoral fellow in Dr. Santosh Kumar’s Wireless Sensors and Mobile Ad Hoc Networks (WSx MANet) Lab, has accepted a tenure-track Assistant Professor position at the University of South Florida.

Dr. Vassil Ras was selected to serve on the program committees of two prestigious conferences. He is an area chair for the International Conference of the Association for Computational Linguistics and Human Language Technologies (ACL-HLT 2011), which will be held from June 19-24 in Portland, OR. Dr. Ras is also a Program Committee member of the 25th International Conference on Artificial Intelligence (AAAI-11), to be held August 7-11 in San Francisco, CA.

Our faculty continue to make a mark in society through a wide range of applied research, covering everything from natural language processing to bioinformatics to Internet protocols to wireless sensor networks. With such a diverse range of computer science applications, it is more important than ever for educators to focus on computational thinking as an integral part of the curriculum, on par with the classic foundations of "reading, writing, and arithmetic." To that end, we have continued our outreach efforts to Memphis-area high schools, including an Open House event as part of CS Education Week last December, the Programming Challenge this spring, and the Computational Thinking Summer Camp for Girls this summer.

I am pleased to report that the Department is growing. We recently welcomed Dr. Scott Fleming as a new tenure-track Assistant Professor, with one additional tenure-track position to be filled in the very near future. That we are able to hire new faculty in this less-than-ideal year with their wide range of experience is a testament to the strength of not only our department, but also computer science as a field.

Dr. Sajnaj Shiva
Game Theory in Cyber Security Lab

Network security is a complex and challenging problem. The area of network defense mechanism design has received immense attention from the research community for more than two decades. However, the network security problem is far from completely solved. The GTCS lab is exploring the applicability of game theoretic approaches to address network security issues. The goal of our research is to design robust solutions for addressing malicious network attacks using game theory. We envision a semi-autonomous defense architecture known as a Game Inspired Defense Architecture (GIDA). GIDA is a distributed architecture consisting of three key components: a set of game agents along with the central game coordinator, an administrative console, and a dynamic bootnet. These three components interact in a semi-autonomous fashion in order to provide means to identify, evaluate, and act upon network flows.

The GTCS lab is under the direction of Dr. Saajan Shiva and includes graduate students Harkeerat Bedi, Ramya Dharam, Mustafa Hajeri, Danielle Jones, Chris Simmons, and Vivek Shandilya. We have recently published papers at the 1st Conference on Data Engineering and Internet Technology (DEIT) and the IEEE Symposium on Computational Intelligence in Cyber Security (CICS).

Alumni News

Dr. Andrew Otway (Ph.D. ’06), currently an Assistant Professor in the U of M’s Department of Psychology and Associate Director of the Institute for Intelligent Systems, has been selected as a recipient of the Early Career Research Award from the U of M College of Arts and Sciences.

Spring 2011 Graduates

M.S.
Shweta Addala
Stephen Michael Ash
Megan Elizabeth Bailey
Swathi Bavanka
Bunanth Koganti
Praveen Kolla
Beata Kubias
Srinivas Reddy Kukunoor
Manasa Meesanda
David L. Mills
Sowdha Mouya Pupuri
Naga Sravana Sathi Saladi
Vivek Mayura Shandilya
Shw-Ling Sheng
Neva Kay Smith
Sreedi Thippareddy
Sukshith Sankar Veerappan

M.S. Applied Computer Science

Jason Kinsley
Silas K. Njoroge

B.S.
Andrew James Diuna, magna cum laude
Eric L. Hicks
Dylan R. Moore
Jeremy D. Roberts

CS Research Day 2011

The annual CS Research Day, held on March 25 at the University Center, included seven oral presentations and seven posters covering a wide range of research areas. The top three participants in each category received cash prizes that may be redeemed for research-related expenses.

Thanks go to Dr. Max Garzon for organizing this year’s event, and to the panel of faculty judges: Dr. Dipankar Dasgupta, Dr. Qichi Wu, and Dr. Lan Wang (prospective); and Dr. Marc Fisher II, Dr. Max Garzon, and Dr. Linda Sherrell (posters). Congratulations to the winners and to all participants!

Oral Presentations:

Winner: Archana Bhattacharj, "Concept-Based Information Retrieval from Heterogeneous Evidence" (Advisor: Dr. Vasile Rosu) Archana also went on to win 1st place at the University Research Forum!

1st Runner-Up: Harkeerat Bedi, "Game Theory-Based Defense Mechanisms against DDoS Attacks on TCP" (First-Time Flows)" (Advisor: Dr. Saajan Shiva)

2nd Runner-Up: Jake Qualls, "CS1 Students' Understanding of Computational Thinking Concepts" (Advisor: Dr. Linda Sherrell)

Posters:

Winner: Javier Snader, "Time Production and Representation in a Conceptual and Computational Cognitive Model" (Advisor: Dr. Stan Franklin)

1st Runner-Up: Kiran Bobba, "A Metric Model of Gibbs Energies for DNA Self-Assembly and Microarray Design" (Advisor: Dr. Max Garzon)

2nd Runner-Up: Yi Gu and Shw-Ling Sheng, "Multi-Objective Genetic Algorithm-Based Solution for Workflow Mapping Work" (Advisor: Dr. Qichi Wu)

ACM Student Chapter Events

On March 2 the ACM student chapter held a workshop on Web technologies given by Dr. Vinileh Phan. He discussed the Python programming language and the web2py framework for developing Web apps, including demonstrations of creating a blog, a wiki, and a simple human-versus-computer strategy game. Interested in getting involved with the ACM chapter? Contact President Emer McCracken (emercrka@memphis.edu), Vice President Craig Hennock (ehthrude@memphis.edu), or faculty advisor Dr. Vinileh Phan (vphan@memphis.edu).

NetLab News

Dr. Lan Wang’s Networking Research Lab welcomed three new members in January: Ph.D. student A.K.M. Mahmudul Hoque and undergraduate students Roman Birg and Gas Sanders. Ernest A. McCracken presented our NetViews work at the Workshop on Active Internet Measurements (AIMS) in February. Yaoqing Liu and A.K.M. Mahmudul Hoque will attend the retreat for our NSF Named Data Networking project from May 23-25 in Palo Alto, CA. We have paid research assistant positions for both undergraduate and Ph.D. students. Interested students can email their resumes to lanwang@memphis.edu

Applied CS Program Goes Online

The Applied Computer Science graduate program will be fully available online in Fall 2011. For more information about the program contact coordinator Dr. Max Garzon (mgarzon@memphis.edu), or visit apcs.memphis.edu

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M.S.

This semester’s CS Colloquium series included talks from distinguished visiting researchers as well as University of Memphis faculty and students. For abstracts and speaker bios, see www.cs.memphis.edu/colloquium

Dr. Yuriy Brun, Department of Computer Science, University of Washington
"Software Self-Adaptation: Automating Decision Making"

Dr. Scott Fleming, School of Electrical Engineering and Computer Science, Oregon State University
"Building a Foundation for the Design of Software Engineering Tools"

Javier Snader, Department of Computer Science, University of Memphis
"A Computational Framework for a Cognitive Architecture"

Dr. Lib-Yuan Deng, Department of Computer Science / Department of Mathematical Sciences, University of Memphis
"Security Enhancement on Linear Random Number Generators via Mutual Shuffling"

Dr. Cheng-Zhong Xu, Department of Electrical and Computer Engineering, Wayne State University
"Autonomic Cloud Management: Challenges and Opportunities"

Dr. Amanda Stent, AT&T Research
"InteractiveX: Generating Multimedia Summaries of Spatio-Temporal Data Sets"