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# E-Newsletter

offering degrees in computer science and engineering

Fall 2009 Highlights

Howdy!



The fall 2009 semester was an exciting time for the department. We welcomed Dr. Dylan Shell, from USC, as an assistant professor in the area of robotics. His research aims to analyze complex intelligent behaviors in distributed robotic systems and exploit their physical embodiment and their interactions with their surroundings.

In October, we were pleased to host our fourth Department of Computer Science and Engineering High School Contest, which focused on the theme of Computational Thinking. Dr. Yoonsuck Choe presented fourteen Texas high school student teams with a challenge to perform a simple computational task, utilizing fundamental concepts from computer science. The winning team, North Crowley High School's Panther's Algorithm, received a Kodak EasyShare digital camera for its school and earned a \$100 Best Buy gift certificate for the team members. These gifts were made available by generous donations from our IAP members. The annual High School Contests are designed to expose high school students to the design and creativity utilized in computing. Each year we provide a different theme to highlight the different areas of computer science and computer engineering.

Speaking of gifts, the department was elated to receive valuable equipment donations from two of our Industrial Affiliate members, Hewlett-Packard and Chevron. In total we received approximately \$1M in equipment from these industry partners. The donations helped the department upgrade existing facilities and redirect funds toward the purchase of new equipment for open-access and teaching laboratories. We were able to upgrade existing storage facilities with over 100 terabytes in disk controllers and hard drives. We would like to take this opportunity to once again thank both HP and Chevron for their generous donations.

As always, please see the sidebar for an update on faculty and student recognitions. This eNewsletter will focus on the research contributions of some of our faculty. If you want to know more about the department, I encourage you to [visit our website](#) or contact me at the email address below. I look forward to continuing to work with our faculty, students and friends during the Spring 2010 semester.

Valerie E. Taylor  
Department Head and Royce E. Wisenbaker Professor  
Texas A&M University

Contact Dr. Taylor by [email](#)

## Department Sees Increase in Grants

Over this past year, the department has seen a significant increase in the amount of grants awarded by agencies such as the National Science Foundation (NSF) and the Defense Advanced Research Projects Agency (DARPA). This is due to our excellent group of faculty, who are leading the way in research in algorithms, robotics, systems, information, and security. The following highlights just a few of the many grants our faculty received over the past year.

Professor Valerie Taylor, in collaboration with researchers at University of Tennessee in Knoxville and Virginia Tech, received a \$2.4M grant from the National Science Foundation's Computer Systems Research program to develop Multicore Application Modeling Infrastructure or MuMI. MuMI will facilitate systematic measurement, modeling, and prediction of performance, power consumption, and power-performance tradeoffs in multicore systems. MuMI will also be used to model, analyze, and optimize the power consumption and performance of key benchmarks and applications of multicore systems such as weather and climate modeling applications, biomolecular simulations and energy simulations.

A group of researchers led by Raytheon Professor Robin Murphy along with Associate Professor Ricardo Gutierrez-Osuna, Assistant Professor Dezhen Song, and Assistant Professor Radu Stoleru were recently awarded \$2M from the National Science Foundation's Major Research Instrumentation (NSF MRI) Program to acquire a modular state-of-the-art instrument to be used in a wide variety of disasters and exercises, appropriately named the Mobile, Distributed Instrumentation for Response Research project (RESPOND-R). RESPOND-R allows emergency informatics researchers to capture the complex, real-time information flow and interactions between 15 unmanned systems and sensors, the physical world, and human decision-makers in realistic conditions at Disaster City®, homeland security exercises, or actual disasters.

Assistant Professor Tracy Hammond was awarded a \$2M grant by DARPA to develop a freehand sketch application allowing military commanders to draw Course-of-Action (COA) diagrams that can be understood by a computer. Currently commanders in the field draw these COA's by hand on maps for planning purposes, and then the diagrams are manually entered into a computer. Dr. Hammond's research shows that freehand sketch recognition can be used as a viable alternative to the current paradigm.

Professors Lawrence Rauchwerger, Nancy Amato, and College of Engineering Endowed Chair in Computer Science Bjarne Stroustrup were awarded a \$1.2M dollar grant by the NSF for their project, "A Compositional Approach to Scalable Parallel Software." This project seeks to develop the theory, techniques, and building blocks that can be used by scientists who are not expert parallel programmers to compose efficient applications for high-end computing systems. The outcomes of the research should greatly increase the number of potential users of high-end machines to include essentially all scientists whose problems could take advantage of such systems.

As you can see, this is an exciting time for our department, as our faculty are making great strides in advancing the technology of computer science and engineering. To see more projects that our faculty have received this year, and for more information about other avenues of research within the department, please visit <http://www.cse.tamu.edu/research>.

## Save These Dates!

Feb 8: Retirement Reception for Dr. Glen Williams  
Feb 15: Distinguished Lecturer - [Dr. Srinivas Aluru](#)  
Feb 20: [Aggieland Saturday](#)  
Mar 2-3: [Industrial Affiliates Program Meeting](#)  
Mar 31: Distinguished Lecturer - [Dr. Yale N. Patt](#)  
Apr 9-10: [Festschrift](#) for Dr. Richard Volz  
Apr 14: 2010 Spring Banquet and Awards Ceremony  
Apr 16-18: [Parents' Weekend](#)  
May 13 or 14: Spring 2010 Graduation Reception

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## Faculty Recognition

Awards

Nancy Amato — IEEE Fellow

Robin Murphy — IEEE Fellow

Robin Murphy — The Motohiro Kiso Award from the International Rescue System Institute (IRS)\*  
(\*note: This is the first time the award has been presented to a researcher from outside of Japan!)

Jeffrey Vitter — American Association for the Advancement of Science (AAAS) Fellow

## Faculty Promotions

Udo Pooch — Professor Emeritus

## New Faculty

Dylan Shell

## Student Awards

William Hamilton — Honorable mention, Computing Research Association Outstanding Undergraduate Researcher Award 2010

Grant Brammer — 1st Place, Fall 2009 IAP poster competition

Brandon Paulson — 2nd Place, Fall 2009 IAP poster competition

Mike George — 3rd Place, Fall 2009 IAP poster competition

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