As we are entering the second semester of the 2011-2012 academic year, we are preparing for changes and new opportunities. Associate Professor Brooke Stephens has retired and we are preparing to interview candidates for two open tenure track positions in Computer Science. CSEE has just received permission to search for a Professor of Practice in Computer Science. In addition to assisting our CS instruction, the Professor of Practice will be affiliated with the Cyber Security Program which is rapidly growing.

In the Kudos department: Professor Tim Finin was named UMBC Presidential Research Professor for 2012; Professor Anupam Joshi was recently appointed as the Oros Family Professor of Technology, a five-year endowed professorship; UMBC’s 2012 Alumnus of the Year for Engineering and Information Technology is Dr. Ralph Semmel (’92 Ph.D., Computer Science). He is currently the Director of The Johns Hopkins University Applied Physics Laboratory; the Association for Computing Machinery (ACM) has recognized CSEE Professor Marie desJardins as a Distinguished Member for her contributions to the field of computing.

In December, the Association for Computing Machinery (ACM) named fifty-four of its members as “Distinguished Scientists,” among the selective group was CSEE Professor Dr. Marie desJardins.

In January, Dr. Tim Finin was named a 2012 IEEE Signal Processing Society Distinguished Lecturer. Nominated by the Machine Learning for Signal Processing Technical Committee, Dr. Adal is one of only five Distinguished Lecturers appointed this year. The position commits Dr. Adal to travel around the world to present her current research, which focuses on data-driven and complex-valued signal-processing and their applications in medical image analysis. Her lectures will revolve around the following topics:

- Data-driven Analysis and Fusion of Medical Imaging Data
- Complex-valued Adaptive Signal Processing: When and How to Take Nonlinearity into Account
- ICA, OSA, and IVA: Theory, Connections, and Applications in Medical Image Analysis
- Joint Blind Source Separation: Applications in Medical Image Analysis

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In November, Dr. Anupam Joshi was appointed as the Oros Family Professor of Technology. This five-year endowed professorship will provide Dr. Joshi with nearly $80,000 to spend on enhancing education in the fields of Information Technology at UMBC.

Apart from being a prestigious distinction, the award allows support by way of a generous donation. Broadly defined, the money will be used to support students with assistantships and fellowships, develop international collaborations, and buy equipment to keep labs up to date. But, the funds are also meant to enhance and extend Dr. Joshi’s own research at the intersection of healthcare IT and mobility. “The funds enable me to merge these two existing and very strong research threads to pursue a new ‘Blue Sky’ opportunity,” says Dr. Joshi.

For example, Dr. Joshi is interested in creating a mobile device that can be used to diagnose illness—something similar to the “Tricorder” used in Star Trek. What Joshi envisions is a small, wireless tool (think smartphone) that could do things like take sensor readings and measure vitals. Essentially, it could diagnose a patient who is thousands of miles away from a hospital. Joshi explains that the implications of a device like this are especially encouraging for people in remote areas and poorer populations, where access to modern healthcare is limited or non-existent. Dr. Joshi also hopes the award will help him look more closely at the implications of mobile and social computing on our privacy.

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Distinguished memberships recognize up to ten percent of ACM members who have made significant accomplishments in the computing field, according to the ACM website. In addition, prospective distinguished members must have at least fifteen years of professional experience under their belt, endorsements from colleagues in the field, and must have been an ACM member for at least five years.

ACM is regarded as the largest educational and scientific society in the world. It brings professionals, researchers, and students together by sponsoring conferences and putting out publications like Communications of the ACM, Ubiquity, and et al.

Dr. Marie desJardins, runs UMBC’s Multi-Agent Planning & Learning (MAPLE) Lab. This summer, she was granted senior member status by the Association for the Advancement of Artificial Intelligence (AAAI).
Next Century Corporation Comes to the Classroom

This semester, professor Susan Mitchell is teaching her CMSC 345 class in cooperation with Next Century Corporation.

This semester, the students in Susan Mitchell’s Software Design and Development course were hard-pressed. After applying and being interviewed, ten students were chosen based on their “go-getter” attitude.

Why the selectivity? Susan Mitchell’s CMSC 345 course this semester is a trial course that’s being taught in collaboration with Next Century Corporation, a Maryland-based technology company. Though Mitchell has been teaching CMSC 345 for ten years, this is a first.

Designed around the completion of one software-design project, the course provides students with a “customer” (normally a faculty member) who gives them specific guidelines for the “product” they need to complete. In years prior, students were given the task of developing a program that plans a student’s UMBC course career.

Mitchell explains that the product for this semester will be especially real-world focused.

In fact, essentially everything about the course is meant to simulate working in the software industry. A writing-intensive course, students are asked to write formal documents, and at the end of the semester, they must give a formal presentation.

Mitchell explains that the course isn’t so much about coding as it is about understanding the “software development lifecycle.” It’s the process that’s important, she explains, from conception to delivery. Understanding what the customer wants and then turning out a product that fits those guidelines is the goal.

Chris Stepnitz, a software engineer at Next Century, is the “customer” of this semester’s pilot course. Stepnitz, who graduated from UMBC in 2006 with a degree in Computer Science, took the very same course with Mitchell years ago. “We’re writing an accounting system,” Stepnitz says, remembering Stepnitz, who admits she was considering changing majors before taking the course. She credits it with opening her eyes to the reality of a career in software development and the rewarding experience of programming with a team.

So, when Stepnitz heard that Next Century, who has been reaching out to the community through local colleges, was about to reach out to her alma mater, she jumped at the chance to participate. “I’m very excited,” says Stepnitz. “For the students, I really want to make sure that they both enjoy the class and get the taste of what it’s like to really be in the development world.”

The arrangement is meant to be mutually beneficial. Students in the course learn how to succeed in an industry setting, while Next Century builds bonds with universities that may provide them with future staff members (in fact, roughly 20% of their staff are UMBC alumni). If all goes well, Mitchell hopes to collaborate again and maybe even branch out to other local businesses.

Meet Max, a Teaching Assistant (TA) who loves climbing mountains, swing dancing and Artificial Intelligence.

Max’s foray into teaching began in 2010 when he became a Teaching Assistant for CMSC 202. He says his favorite part about being a TA are the discussions—where he actually gets to get up and teach and get his students excited about Computer Science. His dose of teacherly advice is as follows: “Program for fun.” If you don’t practice and enjoy programming, he explains, you will never be as good as someone who lives and breathes it.

Max, a Teaching Assistant who loves climbing mountains, swing dancing and Artificial Intelligence.

Max’s course for this semester is based on the theme of “Artificial Intelligence.” The core of the course is the development of an artificial intelligence program that plans a student’s UMBC course career.

Max’s favorite thing to do is the hobby he took up in high school: exploring mountains. A frequent of Earth Treks—a climbing center in Columbia—Max had plans to climb frozen waterfalls in New York State this winter. His dream job, he says half-jokingly, is to be a mountaineering guide.

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Professor desJardins attends Grace Hopper and Frontiers of Engineering Education Conferences

Dr. Marie desJardins had the opportunity to attend two invitation-only professional development events in November 2011:

The Senior Women’s Summit at the Grace Hopper Celebration of Women in Computing in Portland, Oregon, brought together senior women who are leaders in their fields in academia, industry, and research labs. The event featured a panel on career advancement, working sessions on leadership and developing a “brand” as a senior scientist, and networking opportunities for the women to share their experiences and advice with each other. Dr. desJardins reports, “I was inspired by the amazing senior women at this event, and by their accomplishments in the field. It was particularly interesting to realize that some of the women who are more senior than I am—department chair, dean, vice presidents—were wrestling with many of the same questions I’ve been asking myself, about what career choices and leadership opportunities would be most satisfying to pursue, as I enter the second half of my professional career.”

The Frontiers of Engineering Education (FOEE) Symposium, organized and sponsored by the National Academy of Engineering, provided an opportunity for early- and mid-career faculty to share their experiences and ideas about innovative strategies for improving engineering education. In the symposium’s poster session, Dr. desJardins gave a presentation on the honors seminar that she teaches at UMBC, called “Computation, Complexity, and Emergence.” The course brings together students from a wide range of backgrounds to explore complex systems and understand the importance of complexity in understanding processes and behaviors in many different application fields. Dr. desJardins’s presentation emphasized the importance of teaching non-engineers about engineering and computational topics, the value of interdisciplinary learning environments, and the importance of emphasizing student-centered learning methods. The FOEE Symposium also included panels and presentations on project-based learning, assessment of learning outcomes, active learning, and design-based learning. Meeting other faculty from across the country who are teaching and innovating at a wide range of academic institutions, was also the source of new friendships as well as exciting new ideas for engaging students and increasing the depth of their learning experiences inside and outside of the classroom.

One of the most valuable parts of the FOEE symposium, according to Dr. desJardins, was the small-group mentoring sessions with senior leaders from industry and academia. She had the opportunity to have breakfast with Larry Shuman (Senior Associate Dean for Academic Affairs at the University of Pittsburgh) and lunch with Stephen Director (Provost and Senior Vice President for Academic Affairs at Northeastern University), and was inspired and fascinated by their stories of implementing major curricular changes at their respective universities.

Upcoming Events

COEIT Diversity Summit
When: February 27, 2012, 10 a.m. to 2 p.m.
Where: University Center Ballroom

Joni Daniels, principal founder of Daniels and Associates, moderates a panel of four industry experts: Kim Weaver (Director, Global Diversity & Inclusion at McCormick), Janese Murray (Executive Director of Talent Development and Inclusion at Constellation Energy), Caroline Laguerre-Brown (Vice-provost for Institutional Equity at Johns Hopkins University), and Stephanie Hill (Corporate Internal Audit at Lockheed Martin). Students, staff, and faculty are encouraged to attend in order to learn about the importance of diversity in the workplace.

CWIT’s 2nd Annual Spring Into Leadership
When: April 4, 2012, 6:30 to 8 p.m.
Where: University Center, 3rd Floor

The Center for Women in Technology (CWIT) presents its 2nd annual Spring Into Leadership Event with the theme “What’s Your Story?” UMBC students, staff, and faculty members share personal stories about how they have and how they plan to make a difference. The event features keynote speaker Wendy H. Martin, PMP and Vice-President of Advanced Information Solutions and Washington Operations for Harris Corporation’s Government Communications Systems. Dinner will be served. Register for this free event by April 2nd by visiting: http://bit.ly/SpringIntoLeadership2012. For more information, contact CWIT Associate Director Dr. Susan Martin (susan@umbc.edu).

Undergraduate Research and Creative Achievement Day (URCAD)
When: April 25, 2012
Where: University Center, Fine Arts

Each year, UMBC students across a range of disciplines present the results of their unique research projects. Last year, CSEE student presentations included topics like: “Finding Communities through Social Media,” “Innovations in Computer Game Development,” and “Spectrogram Analysis and Evaluation and Brainwave Appreciation of Music.”

Thinking about presenting? The deadline for applications is February 28, 2012. See www.umbc.edu/undergrad_ed for more information.