In January, Dr. Tulay Adali was named a 2012 IEEE Signal Processing Society Distinguished Lecturer. Nominated by the Machine Learning for Signal Processing Technical Committee, Dr. Adali is one of only five Distinguished Lecturers appointed this year.

The position commits Dr. Adali 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 Noncircularity into Account
- ICA, ISA, and IVA: Theory, Connections, and Applications in Medical Image Analysis
- Joint Blind Source Separation: Applications in Medical Image Analysis

“Ah, I was looking forward to telling a wider audience than I have in the past about the exciting research results we have, as well as better introducing these important areas to new audiences.”

The appointment will last from January 1, 2012 until the end of December 2013.

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.

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).

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In previous years, themes included “As long as we’re together, there will always be problems,” or more simply, “extinction.” But this year, a theme was chosen that could be equally relatable to the nearly 11,000 participants from countries like Canada, Sweden, Brazil, France, Italy, Hungry, Israel, and Japan (to name a few). Instead of a phrase, this year’s theme was a picture: Qoroobos— a snake eating its own tail—which Wikipedia describes as a representation of “the perpetual cyclic renewal of life.”

Some teams were inspired by this idea of reimagining, including the team responsible for Bit Exhaust, a 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 if not 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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“My research group, the Machine Learning for Signal Processing Lab (MAPLE) Lab, has been conducting research in two of the most active areas in my field: data-driven signal processing and medical image analysis and fusion,” explains Dr. Adali. “I am looking forward to telling a wider audience than I have in the past about the exciting research results we have, as well as better introducing these important areas to new audiences.”

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Next Century Corporation Comes to the Classroom

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 carry through. 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 wrote an accounting system," remembers 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, which has been reaching out to the community through local colleges, was about to reach out to her alma matter, 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.

Need Homework Help? Ask Dan…

A Sophomore Computer Science major, Dan Miovski has been a tutor in the Computer Science Help Center since last fall.

Last Fall, Dan applied to be a tutor in the Computer Science Help Center. "The best thing about tutoring is getting the chance to help other students learn," he says. "Every time someone walks out of the door of the Help Center with a better understanding of the material they had questions about, I just feel good knowing I could help them learn something." Though Dan mainly helps students in CMSC 104, 201, and 202, the center provides help for students in most lower-level Computer Science courses including CMSC 100, 203, 313, 331, and 343, he explains.

The Computer Science Help Center—located in ITE 202—offers tutoring on a walk in basis. "Anyone enrolled in a Computer Science course at UMBC can be tutored by the Help Center," says Dan, "and it's completely free." Dan compares the challenges of tutoring to those faced by computer scientists.

"The good challenge is trying to figure out how to make the computer science topics make sense to different people with different ways of thinking," explains Dan. "Trying to understand so many diverse strategies is a lot like solving a problem in computer science."

Dan has plans to continue tutoring until he pursues a Master's degree in Computer Science. Once in graduate school, his teaching aspirations will not cease. "I'd hope to eventually become a TA." Though Dan enjoys helping others, he's not set on a career in teaching, though he's still considering it. "I want to work at a job that's exciting and requires collaboration," he says, "right now the thing that excites me most is cyber security."
the importance of diversity in the workplace.

Encouraged to attend was the 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 chairs, deans, 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](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](http://www.umbc.edu/undergrad_ed) for more information.