

# CSEE News

Department of Computer Science and Electrical Engineering



## AMY CIAVOLINO NAMED GOOGLE STUDENT AMBASSADOR

Amy Ciavolino, a Senior Computer Science major at UMBC, was recently selected as a student ambassador for Google. "Our responsibility is basically to promote Google and Google products on campus by holding a few events each semester," explains Ciavolino, who gave away T-shirts and Google+ invites at Involvement Fest this September.

Ciavolino is one of 145 students around the country who has been chosen to represent Google at their University. "Not all schools have ambassadors so I'm very excited to represent UMBC," explains Ciavolino. She applied for the position in order to help make other Computer Science students aware that, despite UMBC's proximity to D.C., there are job and internship opportunities outside of the governmental sphere. In fact, this summer, Ciavolino worked as an intern at YouTube, a subsidiary of Google.



Dr. Gary Carter, *Chair*

## A Note from the Chair:

The Computer Science and Electrical Engineering department made significant accomplishments during the 2010-2011 school year. Our undergraduate enrollment grew to 886 students and our graduate enrollment grew to 271 students. Our department produced a total of 16 Ph.D.'s during that time period. Our research productivity in terms of research expenditures has reached the level of our departmental budget at nearly \$6 Million. In addition, Professor Hillol Kargupta was elevated to the level of IEEE fellow, and Professor Marie desJardins was promoted to full Professor.

Last year also marked a number of changes within the department. I became the Chair in October of last year after Professor Anupam Joshi ably served the department as interim chair, following Professor Charles Nicholas stepping down from the position.

After graduation, Ms. Ciavolino hopes to work at Google before pursuing Graduate School. Ciavolino is already enjoying her new role. "I love that Google makes so much information accessible that would otherwise be impossible to find," says Ms. Ciavolino. "There are so many awesome things in the world and Google lets me find out about them."

We have also gained three new Computer Engineering faculty members: Assistant Professors Tinoosh Mohsenin, Chintan Patel, and Gymama Slaughter. Most recently, Shawn Lupoli joined the department as a lecturer in Computer Science.

Last year was also a time of transition. We had a number of faculty members retire: Sue Evans, senior lecturer in Computer Science, Professor John Pinkston, and Professor Zary Segall. We will miss their contributions to the department. In order to compensate for these losses, I am pleased to report that we have been authorized to search for a new Computer Science Assistant Professor.

Please look at our new website which contains a wealth of information for students, faculty, staff, visitors, and prospective students. You can visit it at [www.csee.umbc.edu](http://www.csee.umbc.edu)

-Gary

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## Achievements and Awards

### Dr. Olano does summer research at Activision



Dr. Marc Olano, professor, spent the summer at Activision Studio Central in Santa Monica, CA., researching new ways to model the interaction between light and surfaces.

### Dr. Marie desJardins named professor not to miss

Congratulations to **Dr. Marie desJardins** for being named a professor not to miss by UMBC's Office of Undergraduate Admissions. Dr. desJardins was one of ten professors chosen for the honor by a vote of current and former students.

### CSEE Professors teach in

#### Slovenia



This past August, Professors **Sergej Nirenburg** and **Marjorie McShane** taught "Difficult Aspects of Reference Resolution: Description, Theory and Hands-On Practice" at The European Summer School for Language, Logic and Information in Ljubljana, Slovenia.



### RECENT PUBLICATIONS

**Dr. Adali, Hualiang Li, Mike Novey,** and **Jean-Francois Cardoso** are the recipients of a 2011 IEEE Signal Processing Society Best Paper Award for their paper entitled "Complex ICA using Nonlinear Functions."

**Marc Olano, Dan Baker, Wesley Griffin** and **Joshua Barczak**, "Variable Bit Rate GPU Texture Compression", EGSR 2011: Proceedings of the Eurographics Symposium on Rendering, (Prague, Czech Republic, June 27-29, 2011).

### Dr. desJardins promoted to full professor

The CSEE Department wishes to extend its congratulations to **Dr. Marie desJardins** for her recent promotion from associate professor to full professor. Dr. desJardins began teaching at UMBC in 2001 as an assistant professor of Computer Science and Electrical Engineering, and since then has taught courses in areas such as artificial intelligence, multi-agent systems and computer programming. As director of the Multi-agent, Planning and Learning lab (MAPLE) at UMBC, Dr. desJardins works with students to find AI solutions to real world problems. In addition to teaching, Dr. desJardins has actively been pursuing research in the areas of multi-agent systems, machine learning, and planning.

Throughout her decade-long career at UMBC, Dr. desJardins has been an active member of several university organizations and committees. From 2008 to 2010, she served as the Undergraduate Program Director for the Computer Science Program. Currently, she is a member of the CSEE Executive Committee, the UMBC Faculty Affairs Committee and the CWIT Internal Advisory Board. Dr. desJardins' numerous contributions to the CSEE Department, whether through teaching, research or committee involvement, have not been overlooked and the Department is confident that she will excel as she takes on her new role.

### RECENT GRANTS

**Dr. Yun Peng** received a grant of \$188K from NSF to support his project in supply chain interoperability research.

**Dr. Tulay Adali** received an NSF Grant Award for her collaborative research: Entropy Rate for Source Separation and Model Selection: Applications in fMRI and EEG Analysis.



### Karuna Joshi IBM Ph.D. Fellowship

"The IBM Ph.D. Fellowship Award that I received is highly competitive and selects exceptional Ph.D. students who have an interest in solving problems important to IBM and their disciplines of study."



### Aniket Bochare CAS Research Fellowship

"I feel extremely honored to have a fellowship from IBM. I am very thankful for the support from IBM and Dr. Yelena Yesha, my advisor. The funding support from them has helped me to carry my Master's Thesis Research as well as my education at Computer Science Department at UMBC."



### Kavita Krishnaswamy Ford Foundation Fellowship NSF Graduate Research Fellowship

"The fellowships will help support my studies and research to successfully develop a robotic system to assist people with disabilities and the elderly. Through this most privileged experience, I will have the opportunity to solve problems

**Christopher J. Morris, CS M.S., 2000**, has been promoted to Fellow Engineer at Northrop Grumman.

**Abhijit Yeshwantpur, CS M.S., 2006**, has accepted a position at Qualcomm Inc. as Senior Engineer.



### Oleg Aulov CAS Research Fellowship

"I was very excited to receive a competitive fellowship from a company that I have admired since I was a kid seeing "IBM compatible" stickers on all the computer parts. Later I came to respect IBM even more for their obsession with intellectual property portfolios and high quality standards. This fellowship will help me complete my PhD with a topic that includes some of the most current trends in computer science such as social media mining and parallel computing on multicore systems."

**Alark Joshi, CS Ph.D., 2007**, has accepted a position as an assistant professor of computer science at Boise State University.

**Zhihang (Jonathan) Hu, EE Ph.D., 2008**, has accepted a position as an assistant professor of electrical and computer engineering at Baylor University in Waco, Texas.

**Nicolle Correa, EE Ph.D., 2008**, has accepted a position as a Risk Analyst/Business Intelligence Engineer at Amazon.com Inc., in Seattle, Washington.

**Jaewook Kim, CS Ph.D., 2011**, has accepted a position as a senior engineer at Oracle Corporation.

**Yi Xin, EE M.S., 2011**, presented work from his MSEE thesis at the MIRTHE Summer Workshop at Princeton University.

**Wes Griffin, CS Ph.D.** spent the summer at Firaxis Games working on compressing the texture images used in the Civilization V video game.

**Yasaman Haghpanah, CS Ph.D.**, has received a travel scholarship, sponsored by Symantec, to attend the 2011 Grace Hopper Celebration of Women in Computing.

# Shawn Lupoli joins CSEE faculty as new lecturer

The Department of Computer Science and Electrical Engineering would like to welcome new lecturer Shawn Lupoli to the department. Mr. Lupoli will be teaching CMSC 201 (Introduction to Computer Science) and CMSC 104 (Problem Solving and Computer Programming) at UMBC this Fall.



"I've always wanted to teach," says Mr. Lupoli, who was influenced by his father, who has been an Industrial Technology teacher at Perryville Middle School for thirty-four years. After receiving his Master's in Computer Science from Towson University, Lupoli dove into teaching introductory computer science courses. He has over ten years of teaching experience, and has been a Computer Science Instructor at Mount St. Josephs High School in Baltimore, Anne Arundel Community College, Virginia Tech University, and Radford University, among other colleges. Most recently, Mr. Lupoli was an Assistant Professor at the Community College of Baltimore County (CCBC).

"When I was teaching at Virginia Tech and Radford, I fell in love with the University atmosphere," he says, which is what drew him to the lecturer position at UMBC. "For me professionally, there are more opportunities here than I would ever have at a community college," he adds. Mr. Lupoli sees teaching at

Shawn Lupoli's interest in robotics sparked while he was pursuing an undergraduate degree in Computer Science at Frostburg State University. "The hands-on experience ignited my imagination," says Mr. Lupoli of the robotics course that appealed to his inner-electrician. As a Master's student at Towson University, Mr. Lupoli used LEGO, Vex Robotics and Fischertechnik robot kits as teaching tools in his Computer Science courses to engage his students with fun, hands-on projects.

UMBC as a welcome challenge and hopes to eventually expand his teaching to subjects such as operating systems and data structures.

This Fall, Mr. Lupoli will teach CMSC 201 (Introduction to Computer Science) and CMSC 104 (Problem Solving and Computer Programming). Eager to get the semester started, Mr. Lupoli says one of his goals for the Fall is to get settled in and get used to the nuances of UMBC. But, the success of his students is his ultimate concern, says Mr. Lupoli, who explains that one of his favorite things about teaching is seeing the "I got it" light turn on in a student's head. "I strive to make the students understand," says Mr. Lupoli, "I strive for student success."

## Teacher development workshop a success

This July, UMBC hosted the Google CS4HS (Computer Science for High School) Teacher Development Workshop, a three-day workshop funded by a grant from Google's Education group, which is geared at giving 35 Maryland High School Computer Science teachers the opportunity to discuss teaching tactics. The workshop was co-organized by Dr. Marie desJardins, professor of Computer Science and Electrical Engineering and Susan Martin, Associate Director of CWIT, with help from Computer Science graduate student James MacGlashan and area high school teachers.

Teachers from nearby counties, including Howard, Frederick, Charles and Montgomery, attended the workshop, which was made up of a busy curriculum of lectures, presentations, and opportunities for teachers to network. On the first night, a dinner with industry representatives was attended by professionals from NSA, T. Rowe Price, Legg Mason, and SAIC, among others.

Highlights of the workshop included lectures by High School teachers Pat Yonpradit (Springbrook), who discussed Game Programming, and Dianne O'Grady (Westlake), who discussed tactics for integrating robots into the curriculum.

Robot sessions during the workshop introduced "The Finch," a new robot designed by Carnegie Mellon's CREATE lab, geared at computer science education. "The teachers loved the Finch Robots and most plan to incorporate these into their classrooms," says Martin. High school teachers Patty Bowersox (Charles County) and Griffith Wheatly (Montgomery County) won The Finch in a raffle.



UMBC faculty members and students, High School teachers, and industry representatives participated in the CS4HS workshop that was held at UMBC from July 17<sup>th</sup> - 20<sup>th</sup>.

... "Workshop" continued on page 4.

# Upcoming Events

## CWIT Affiliates Retreat

When: September 10, 2011  
Where: ITE 456

The first annual CWIT Affiliates Retreat brings together new and returning women majoring in engineering, computer science, and information systems, to meet each other, have fun, and learn strategies for success in their major and career. Pre-registration required by visiting the CWIT website at [cwit.umbc.edu](http://cwit.umbc.edu).

## WISE Brownbag-Luncheon with Senior STEM Colleagues

When: October 18, 2011  
Where: Commons 328

Drs. desJardins, Rheingans and Brewster will be available for an open forum discussion with junior STEM faculty.

## Region 2 GOLD and WIE Annual Picnic

When: September 11, 2011  
Where: Meadowbrook Park  
7901 Meadowbrook Lane  
Chevy Chase, MD, 20815

Enjoy free food and prizes and learn about career opportunities at Zachary Piper.

## Maryland Cyber Challenge and Conference (MDC3)

When: October 21-22, 2011  
Where: Baltimore Convention Center

Sponsored by UMBC, SAIC, the National Security Alliance, the Tech Council of Maryland and the Maryland Department of Business and Economic Development, MDC3 strives to increase cyber awareness. There are currently 53 registered teams within the high school, college and professional categories.

## Women in Science and Engineering (WISE) Annual Picnic

When: September 11, 2011  
Where: 9440 Lovat Rd. Fulton, MD 20759

WISE invites you and yours to have some fun and welcome new faculty to UMBC and celebrate promotions and tenures!

## TEDxMidAtlantic 2011

When: October 29, 2011  
Where: Sidney Harman Hall, Washington, DC

See some of the world's most influential speakers at this year's TED conference, where the theme is "A Sense of Place." Some of this year's speakers include: Steve Case (founder of AOL), Scott Simon (NPR), Paula Kerger (CEO of PBS) and Peter Agre (Nobel Prize Winner).

## Mid-Atlantic Student Colloquium on Speech, Language and Learning

When: September 23, 2011  
Where: John's Hopkins University

Sponsored by JHU's Human Language Technology Center of Excellence, and the Center for Language and Speech Processing, this day-long event brings together faculty, researchers and students interested in Speech/Language/ML.

## WISE Workshop--Tips for Efficient and Effective Teaching

When: November 14, 2011  
Where: Commons 328

Join Dr. Linda Hodges, Associate Vice Provost for Faculty Affairs, in a discussion of ways to promote deeper learning in your students and spend less time grading and preparing for class.

## AAAI grants Dr. desJardins Senior Member status



"I was delighted and honored to be selected as one of the Senior Members who were named in the first year of the Senior Member Program," says Dr. Marie desJardins, who was recently granted Senior Member Status by the Association for the Advancement of Artificial Intelligence (AAAI). Senior Members, of which there are a maximum of only twenty-five per year, are selected according to their contributions in the field of artificial intelligence, active involvement with AAAI, and endorsements from AAAI Fellows.

"The mission of AAAI is to serve as a professional organization for the advancement of artificial intelligence techniques," explains desJardins, who has been an AAAI member since 1987, when she was a graduate student at the University of California: Berkeley. Since then, desJardins has served the organization in a variety of roles including as an AAAI Councillor (2001-2004), AAAI Symposium Associate Chair (2002-2006), and the AAAI Workshop Program Co-Chair (1999-2000), among others. Most recently, she has served on the editorial board of *AI Magazine*, a quarterly publication of AAAI that features articles highlighting new AI-related research.

In addition, Dr. desJardins has served as chair, co-chair, mentor and reviewer of the AAAI Doctoral Consortium every year since 2000.

She was a founding member and co-organizer of the AAAI Teaching Forum, now known as the Annual Symposium, now known as the Annual Symposium on Educational Advances in Artificial Intelligence (EAAI). EAAI was established to provide a forum for educators and researchers to discuss teaching techniques that better communicate the principles of AI. This year, Dr. desJardins sent three undergraduate students and one Ph.D. student to the symposium in San Francisco to present a poster entitled "Playing to Program: An Intelligent Programming Tutor for RUR-PLE."

## ...from "Workshop"

The workshop received positive feedback from the high school teachers involved, and allowed teachers to develop strong bonds with one another around a common interest in computer science education.

Dr. desJardins is already planning a workshop on NetLogo, which is geared at middle and high school teachers. Planned for this October, the one-day workshop will be based around the curriculum that Dr. DesJardins developed for CMSC 491/ HONR 300: Computation, Complexity and Emergence.

Dr. Olano predicts that the newly-enhanced GAIM lab will be usable by the beginning of the Spring semester. The new equipment will enhance game development and parallel programming classes in upcoming semesters, such as CMSC 483: Parallel and Distributed Processing, which will be taught by Dr. Shujia Zhou in the upgraded lab this Spring.

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## UMBC NAMED NVIDIA CUDA TEACHING CENTER



UMBC has been named an NVIDIA CUDA Teaching Center following the submission of a proposal by Dr. Marc Olano, professor, and Dr. Shujia Zhou, research associate professor of the Computer Science and Electrical Engineering Department. The NVIDIA CUDA Teaching Center Program will provide UMBC with enough high-end GPUs to upgrade the UMBC GAIM (Games, Animation and Interactive Media) Lab, as well as a Tesla GPU-based computing processor.

Dr. Olano was familiar with NVIDIA's grant programs through previous equipment grants, and last February, he spoke with David Luebke, Director of Research at NVIDIA, about the CUDA Teaching Center Program. His decision to submit a proposal weighed heavily upon the increasing interest in GPU computing around the UMBC community.

"It's an important skill for game programming," says Dr. Olano, who is currently the director of the Computer Science program's Game Development Track. He adds that UMBC's Multicore Computational Center (MC2) and High Performance Computing Facility (HPCF) are also moving toward nodes with GPU computing capability and could benefit from the upgrade.

UMBC has become the 25<sup>th</sup> NVIDIA CUDA Teaching Center within the U.S., joining schools such as Florida A&M University, Hood College, Purdue University and UCLA. Apart from the generous equipment donation, UMBC's distinction as a NVIDIA CUDA Teaching Center provides the university with recognition on NVIDIA's website, access to teaching materials, and the opportunity to receive discounts on some NVIDIA equipment purchases.