COEIT and UMBC are dedicated to research, innovation, and education. The College works in partnership with state and federal agencies and industry to promote the transfer of research applications that benefit society. We distinguish ourselves by our continued commitment to cross-disciplinary research and education. We provide outstanding education opportunities to graduate and undergraduate students to contribute to the professional workforce in engineering, computer science, and information systems.

New grants grow UMBC’s research partnership with UMB

Faculty members at Maryland universities conduct important research that may provide relief for spinal cord injury victims, or develop new targeted methods to deliver drugs through nanotechnology. More and more of that vital work is being conducted in collaborations between faculty at UMBC and the University of Maryland, Baltimore (UMB).

The latest venture to expand the research partnership between the two neighboring universities (separated by less than seven miles) is a joint UMBC-UMB Research and Innovation Partnership Seed Grant Program that pairs investigators from each university to conduct research as a team. Successful proposal teams are awarded research funding of up to $75,000 over twelve months to pursue their collaboration, and then go the next step in preparing a joint proposal to agencies such as NIH and NSF.

The program’s first grant recipients were announced at a ceremony and poster session held at UMBC’s AOK Library on February 11, 2014.

After a review process, teams that were selected for the awards included faculty in UMBC’s College of Engineering and Information Technology and the College of Natural and Mathematical Science, as well as researchers in the University of Maryland School of Medicine and University of Maryland School of Pharmacy.

William E. Kirwan, Chancellor of the University System of Maryland (USM), praises the new program for its “focus on cutting-edge science and health concerns” and its emphasis on interdisciplinary teamwork. Tülay Adalı (Professor of Computer science and Electrical Engineering) and Kelly Westlake (Assistant Professor of Physical Therapy and Rehabilitation Sciences at the University of Maryland School of Medicine) are among the recipients.

Information about this UMBC-UMB partnership is available at: http://bit.ly/1JQL8fT
Gymama Slaughter (Computer Science and Electrical Engineering) has received a NSF CAREER award for self-powered biosensing microsystems that simultaneously generates bioelectricity and monitors glucose. The self-powered biosensing microsystem will monitor sugar levels and embodies two key technical contributions: it eliminates the need for a potentiostat circuit and an external power source or batteries, leading to dramatic improvements in both speed and energy efficiency, and it demonstrates an autonomous, self-powered, low-power biosensing microsystem that can be adapted for other uses. For people suffering from diabetes, continuous, self-powered monitoring of glucose will improve their quality of life and can save lives. The four-year award in the amount of $400K is from NSF’s prestigious Faculty Early Career Development (CAREER) Program, which supports junior faculty who exemplify the role of teacher-scholars through outstanding research, excellent education and the integration of education and research. Professor Slaughter notes that the educational component of the project enriches and complements other programs at UMBC designed to increase minority and female participation in STEM fields. The exposure of these students to a real-world problem and its solution will enable them to better appreciate the contribution of scientific research.

Information Systems Online M.S. Ranked as Top Program

The Department of Information Systems’ online M.S. program has been ranked a top online graduate program in information technology by U.S. News & World Report. The UMBC program was ranked #19 in the nation, and is one of just two programs in Maryland to appear on the list. U.S. News compiled program rankings by peer institutions for the 2014 edition of the Best Online Graduate Computer Information Technology Programs. To see all rankings and how rankings are calculated, visit the U.S. News & World Report website.

Dr. Joshi’s project will build on a novel framework she developed as part of her Ph.D. dissertation for automating the process lifecycle of cloud services. She designed technology that allows users to compare different cloud services and determine which are best suited for their needs. Her initial prototype demonstrated a system that could negotiate for and procure storage services from a provider like Amazon Web Services.
Undergraduate Mentoring Award

Dr. desJardins was selected as one of four awardees of the 2014 NCWIT Undergraduate Research Mentoring Award. The award comes with a gift to UMBC of $5,000, sponsored by AT&T, that can be used to further Professor desJardins mentoring activities. The award will be presented at the 2014 NCWIT Summit, which will take place at the Newport Beach Marriott Hotel & Spa in Newport Beach, California in May 2014.

NCWIT is a non-profit community of more than 500 prominent corporations, academic institutions, government agencies, and non-profits working to increase women’s participation in technology and computing. Their annual NCWIT Undergraduate Research Mentoring Award recognizes U.S. Academic Alliance representatives for their outstanding mentorship, high-quality research opportunities, recruitment of women and minority students, and efforts to encourage and advance undergraduates in computing-related fields.

For more information about NCWIT and this award visit the website. http://bit.ly/1kD4tF1

Sreedevi Sampath (recently promoted to Associate Professor of Information Systems) joined UMBC and the College in 2006. Dr. Sampath holds a Ph.D. and M.S. in Computer and Information Sciences from the University of Delaware, and a B.E. from Osmania University, India. Her research is in the broad area of software engineering, with specific emphases on software testing, web applications, security, program analysis, and empirical studies. Her research is supported by external grants from the National Institute of Standards and Technology (NIST), where she is affiliated with the Empirical and Applied Software Engineering Lab (EASEL) lab at UMBC. She is also affiliated with UMBC’s Center for Cybersecurity.

New COEI Staff

Yemisi Aina joins the Computer Science and Electrical Engineering as a Program Management Specialist for the undergraduate division. She is a UMBC alumna who previously worked at the Howard County Library.

Richard Sponaugle ’95, M.S. IS ’97 joins the IS Department in Spring 2013 as a full-time Lecturer. He is an alumnus of the Information Systems Department and has served as an adjunct professor at UMBC’s Shady Grove location since 2006.

Adrienne Wheeler joins the Mechanical Engineering as an Administrative Assistant to the Chair. She graduated summa cum laude from UB in 2004 with a B.A. degree in Jurisprudence.

Cindy Lamothe joins the COEIT Dean’s Office as an Administrative Assistant in the TRC Building. She comes to UMBC after working several years part-time at St. Paul’s Lutheran Church in Baltimore.

Bobbie Troyer joins the COEIT Dean’s Office as a Business Services Specialist. Before joining the College, Bobbie worked at UMBC as an HR Specialist.

Yvette D. Benton joins the Business Services Center as a Specialist, after 2+ years with UMBC’s Financial Services Department, Office of Contract & Grant Accounting.

Olivia Wolfe joins the Computer Science and Electrical Engineering Department as a Coordinator. Olivia previously worked at UMCP as a Computer and Student Services Coordinator in the Philip Merrill College of Journalism.

New COEI Faculty and Staff in the News

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New COEI Faculty and Staff in the News
First hackUMBC concludes successfully

The inaugural hackUMBC hackathon was a smashing success! Held in the UMBC Skylight Room over a week-end in December, UMBC’s first-ever hackathon was open to all UMBC students of any skill level, from innovators and explorers to designers and hardcore coders. Its purpose was to allow students to mingle and collaborate for 24 continuous hours in community exploration to grow technology projects from scratch while expanding their connections to other students, industry leaders, and faculty. Admission was free and open to all UMBC students from across the UMBC campus community, including students in COBIT programs: Computer Science, Computer Engineering, Electrical Engineering, Information Systems.

Projects were evaluated by several faculty and staff judges based on creativity, technical difficulty, polish, relevance, and usefulness. More than $2500 in prizes were awarded. hackUMBC was conceived by CSEE students Perry Ogwuche and Randi Williams following their summer experience as fellows at COD2E40. Assisting in the effort was Pragti Kumar Das, Computer Science Ph.D. student and president of UMBC’s ACM chapter, and Alexander Morrow, a senior Computer Science student and president of UMBC’s Cryptocurrency Club. CSEE’s Dr. Rick Forno served as faculty advisor to the event. hackUMBC was sponsored by Northrop Grumman, the UMBC Department of Computer Science and Electrical Engineering, ClearEdge IT Solutions, Independent Security Evaluators, Next Century Corporation, Tritech Systems, Github, COD2E40, the UMBC BWitch Cync Program, and the UMBC Alex Brown Center for Entrepreneurship.

CyberDawgs take second place at MDC3 2013 finals

In March, UMBC’s CyberDawgs placed second in the 2013 Maryland Cyber Challenge (MD3) finals held in Baltimore as part of the CyberMaryland 2013 conference. UMBC is co-founder of the Maryland Cyber Challenge. Richard Forno and Charles Nicholas (Computer Science and Electrical Engineering) are faculty advisors to the team.

CWIT Update

T-SITE Update

This fall five more transfer students joined the CWIT community as T-SITE Scholars. NSF funded 5-STEM project DUE-1154300. Our second cohort includes Kante Brantley (Computer Science and Electrical Engineering), Ekzwennwa (computer science, CSIM), Travis Ward (computer engineering, CCBC), April Waterleib-en (chemical engineering, MC), and Gurpreet Singh (mechanical engineering, CCBC). They all participated in a weekly seminar to ease their transition to UMBC. When asked about their CWIT experience, they all agreed that the connections they have formed with each other and with many of the CWIT and Cyber

with industry mentors from Northrop Grumman Corporation, Harris Corporation, T. Rowe Price, and Security Information Systems, Prince George’s County Public Schools, Naval Surface Warfare Center, NSA, NIST, UMBC, Prax Engineering, and BAE Systems. About half of the mentors attended at least one session of the practicum, where they engaged in small group discussions about career paths, work values, and corporate cultures with the scholars. Mentors were surveyed about their experiences. 100% of respondents rated their overall experience as excellent or good.

Mentors said:

“The CWIT students are eager to listen and learn from their mentors. I was very impressed with the students’ participation… I felt useful during [our] interactions.”

“T-SITE was a smashing success. I came away impressed with both the group’s connections to other students and their waves of ideas in problems.”

“I really enjoyed this experience over the past couple of years. Each T-SITE Mentor has contributed to a successful, academically, professionally, and in their co-curricular activities. It was a good experience overall and the students were well prepared.”

A Big Thank You to Fall 2013 CWIT Industry Mentors

This fall, 19 Scholars (6 CWIT, 6 Cyber, and 7 T-SITE) were matched with mentors from industry partners such as Northrop Grumman, NSA, T. Rowe Price, and

including students in COEIT programs: Computer Science, Computer Engineering, Electrical Engineering, Information Systems.

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Cleaning up polluted sediments isn’t an easy task. Standard remediation methods include dredging contaminated sediments or capping with clean sand. Both procedures are costly and disruptive to the existing ecosystem. Enter Upal Ghosh (Professor of Chemical, Biochemical and Environmental Engineering). The project covers the 3.5 acres of Mirror Lake Dover, DE. It is the largest of its kind in the country. Read the complete article in The Dover Post, http://bit.ly/108d4E2

Douglas Frey (Professor of Chemical, Biochemical and Environmental Engineering) is recognized as this year’s recipient of The Huber Honvich Distinguished Lecturer in Chemical Engineering. The lecture is sponsored by Yale’s School of Engineering and Applied Science and The Goizueta Foundation. Dr. Frey delivered the lecture, “New Methods and Applications for the Chromatography of Biological Macromolecules” on Wednesday, April 16, 2014 at Yale University.

Upal Ghosh (Professor of Chemical, Biochemical and Environmental Engineering) was a recent guest on WEA’s ‘The Marc Steiner Show.’

Dr. Forno was joined by Dr. Lisa Yeo of Loyola University to discuss cybersecurity issues and best practices in light of recent high-profile data breaches such as those at the University of Maryland, Target, and Indiana University.

To listen to the segment go to the website http://bit.ly/11aSeE8

Faculty discuss recent data breaches

In December, it was revealed that Target suffered a data breach that marred more than 40 million card and debit card accounts. Target reports that “The unauthorized access may impact guests who made credit or debit card purchases in our U.S. stores from November 27 to December 15, 2013.”

Anupam Joshi, Professor of Computer Science and Electrical Engineering and Director of the UMBC Center for Cybersecurity and Charles F. Horváth Distinguished Lecturer in Chemical Engineering, was a recent guest on WEA’s ‘The Marc Steiner Show.’

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Fow-Sen Choa (Computer Science and Electrical Engineering) has been named an SPIE fellow for his achievements in the development of standoff chemical sensing using quantum cascade lasers. SPIE is the international society for optics and Photonics, a not-for-profit organization founded in 1955 to advance light-based technologies. The Society serves more than 235,000 constituents from approximately 155 countries, offering conferences, continuing education, books, journals, and a digital library in support of interdisciplinary information exchange, professional growth, and patent precedent. SPIE provided $3.2 million in support of education and outreach programs in 2013.