Computing Partnership with GE Starts with a Bang

by the Editorial Staff

Spearheaded by MS in Computing Director Dr. Tom Kaczmarek, the MSCS Department has entered into an exciting partnership with GE Healthcare, based in Waukesha, Wisconsin, that offers members of the corporation’s Edison Engineering Development Program (EEDP) the opportunity to complete a Master’s Degree in Computing. As Tom says, “This partnership adds to our program a crop of bright, highly motivated students ...”

with GE Healthcare, based in Waukesha, Wisconsin, that offers members of the corporation’s Edison Engineering Development Program (EEDP) the opportunity to complete a Master’s Degree in Computing. The increased enrollment and expanded program members are encouraged to earn credit towards an MS degree while in the program. When GE initiated a new Software Edison Program may now obtain an MS in Computing from our department. A dozen students leaped at the opportunity that Fall. Since then, the partnership has been expanded to include program members in GE aviation.

According to program member Nicholas Ferraro, “I joined the GE Edison program because it gave me a chance to continue my education and get my hands dirty with innovative, industry leading software. The program gives you tools to accelerate your career, expertise, and personal character which is a great combination”. Marquette grants nine graduate credits for completion of the EEDP “A course” and a further three credits for components of the “B course”. The courses in the EEDP program are taught by senior GE engineers. After review by MSCS faculty, the curricula are deemed to be “intense software engineering coursework”. Students complete the balance of the requirements for the MS in Computing at Marquette, providing both opportunities and challenges for the latter, especially since many of the GE program members are located outside the greater Milwaukee area. The challenge of retaining those long-distance students has been met with the introduction of several online and distance-learning courses, with an initial concentration in the summer sessions. As a result, “Program members can obtain their MS in Computing in as little as 26 months”, according to Tom Kaczmarek (pictured above). The increased enrollment and expanded online offerings, in turn, will enhance recruitment and retention within the Computing program as a whole.

The EEDP’s connection with Marquette goes back over twenty years, via the Department of Electrical and Computer Engineering.
Sheikh Iqbal Ahamed
Inertial Navigation Systems: a sub-award grant through the University of Wisconsin-Milwaukee from the U. S. Department of Education and the National Institute on Disability and Rehabilitation Research to develop smart phone technology to unobtrusively monitor a user’s daily physical activity.

Search for Best, Appropriate WiFi Tag and Use Chosen Tag to Develop iPhone Application to Track and Locate Children Wearing Tag, year 2 from WiFi Locator Solutions, LLC. This is a continuation of a grant received from WiFi Locator Systems, LLC, for research on WiFi tags and the development of a prototype tracking/location monitoring iPhone application.

Breast Cancer Palliation Study Phase II, a one year grant from the International Breast Cancer Foundation. The research effort has the potential to facilitate breast cancer treatment for under-served areas of the Third World. The award includes graduate research stipends.

An NIDDR sub-award from UW-Milwaukee for the research and development of smart phone software systems in occupational therapy, trichotomous tailored sub-branding scoring outline, distance measurement, and map generation applications.

An NIDDR sub-award from UW-Milwaukee for the research and development of smart phone software systems in occupational therapy, trichotomous tailored sub-branding scoring outline, distance measurement, and map generation applications.

Anne Clough
Noninvasive Detection and Assessment of Two Common Lung Injuries, a Collaborative Clinical and Translational Research (CTSI) Pilot Project Award. The CTSI Research Grants Program is intended to stimulate inter- and trans-disciplinary translational and clinical research within and among the CTSI partner institutions.

Dennis Brylow and Kim Factor
REU Site: Computation Across the Disciplines, a three year grant from the National Science Foundation that will provide an intensive, faculty-mentored, summer research experience for United States undergraduates.

Rong Ge
EEDAG: Exploring Energy-Efficient Parallel Tasks Generation and Scheduling for Heterogeneous Multi-core Systems, from the National Science Foundation (NSF) Computer Systems Research (CSR) award. The project will investigate the impact of different parallel task design strategies on application performance and energy efficiency, explore energy-aware parallel scheduling algorithms for heterogeneous multicore systems, and develop an easy-to-use power profiling toolkit that can be used to obtain decomposed application runtime power consumption characteristics for large-scale systems.

Faculty News

FACULTY NEWS

Faculty Member Celebrates Service Anniversary

Paul Bankston was recognized by the Office of the Provost for 30 years of service to the MU community.

Gary Krenz Represents MSCS at MU Summit

Gary Krenz presented a workshop entitled “Measures That Matter” as part of the Youth Venture Summit 2011 that was held at the end of July. Co-hosted by Ashoka and Marquette University, the Youth Venture Summit involved over 100 youths interested in creating social change as part of Ashoka’s global initiative to identify and foster young social entrepreneurs who are creating positive change.

MSCS Update

WAMA Math Teachers Workshop

A group of 27 middle and secondary school mathematics teachers from the West Allis-West Milwaukee School district are currently engaged in the study of learning and teaching algebra and algebraic thinking. This summer, under the direction of Marta Magiera (MSCS) and Leigh van den Kieboom (EDPL), they continued their work in two summer institutes convened in Cudahy Hall.

Milwaukee Logic Colloquium

Cudahy Hall was the hosting venue for the Milwaukee Logic Colloquium, which honored Paul Bankston’s service to Marquette on September 18, 2011. Three one hour long talks were presented by the following speakers:

Wim Ruitenburg, Marquette University Model Theory and Intuitionistic Logic

Paul Bankston, Marquette University Continuous Functions via Model Theory

Tom Drucker, University of Wisconsin-Whitewater The Effect of van Heijenoort’s View of Logic on Its History

Mobile Monday Meetings

The MSCS Department is hosting the Milwaukee Chapter of Mobile Monday meetings. Sheikh Iqbal Ahamed is the Milwaukee chapter organizer. Mobile Monday is an international organization working to foster cooperation and innovation within the mobile sector through virtual and live networking events.

Global Entrepreneurship Week

As part of Global Entrepreneurship Week in November 2011, the MSCS Department hosted a panel discussion “Entrepreneurial Careers in Mathematics, Statistics and Computer Science”. Moderated by Thomas Kaczmarek, featured panelists were: Jay Bayne, executive director of the Milwaukee Institute, and Stephan Wegerich, chief science officer of VG-Bio.
GRADUATE STUDENT NEWS

Prachi Pradeep, Computational Sciences graduate student, attended the August 2011 Summer School program. "Summer School 2011 was the first of the three summer Research Experience for Undergraduates (REU) programs to both teams for a performance to be proud of! The virtual machines (all of whose runs for five hours and the shortest time possible) provided the necessary 'fuel' for a great time and ranked in the top 25%.

Iain Bruce (left) and Meryem Karaman (right), Computational Sciences graduate students, published their current research, "A Statistical Examination of SENSE Image Reconstruction via an Isomorphism Representation", in the Journal of Magnetic Resonance Imaging, 29 (2011) pp.1267-1287.

Md. Munirul Haque, Computational Sciences graduate student, presented his paper (coauthored with Dr. Sheikh Iqbal Ahamed), "Towards TTP-Free Lightweight Solution for Location Privacy Using Location-Based Anonymity Prediction", at the Research in Applied Computation Symposium (RACS 2011) Conference in Miami, Florida. He received a travel award from the MSCS department and the Graduate School to attend this conference in November, 2011.

David Polyak, Computing graduate student, is current working as a research assistant in an interdisciplinary project with the Marquette College of Nursing and the MSCS department. The project, entitled, “Fertility Monitoring Using Mobile Devices,” is directed by Dr. Richard Fehring from the College of Nursing and Dr. Sheikh Iqbal Ahamed from the MSCS department. In conjunction with this research project, he presented a poster entitled, Monitoring the Menstrual Cycle as a 4th Vital Sign for Women’s Health, at the 2011 Marquette University Forward Thinking Poster Session/Colloquy Presentation in November.

Kyle Persohn, Electrical and Computer Engineering graduate student, presented his paper (coauthored with Dennis Brylow), "Interactive Real – Time Embedded Systems Education Infused with Applied Internet Telephony," at COMPSAC 2011, 25th Annual IEEE Conference on Computer Software and Applications in Munich, Germany. He received travel award funding from the MSCS department and The Intel Corporation to attend this conference in July, 2011.

Michael Ziwnisky, Electrical and Computer Engineering graduate student, attended the UPRC Illinois Summer School on Multicore Programming at the University of Illinois at Urbana-Champaign in July, 2011.

UNDERGRADUATE STUDENT NEWS

ACM Programming Competition

On Saturday, November 12, 2011, Marquette participated in the ACM North Central North America Regional Program Contest sponsored by IBM. The contest involves teams writing programs to solve specified problems in the shortest time possible. The North Central competition is hosted at several sites throughout central US and Canada. The top teams in the region advance to the World Finals of the International Collegiate Program Contest. This year those finals will be in Poland, in May.

Teams consist of three students. Last year Marquette sent two teams: The Javanators (at left) - Victor Blas, Seijung Kim, and Paul Kuleander - and The Virtual Machines (at right) - Adam Leszczewicz, Charlie Powell, and Matt Unger. The competition runs for five hours and the teams are given 10 problems to work on.

Each of our teams was able to solve three problems. The Virtual Machines (all of whose team members were competing for the first time) accomplished this in a time which put them in the top 40% of the 220 teams competing. The Javanators (with returning competitors Victor Blas and Seijung Kim) solved their problems in less time and ranked in the top 25%. Congratulations to both teams for a performance to be proud of!

2011 Summer REU: Computation Across the Disciplines

Dr. Dennis Brylow and Kim Factor were awarded a 3-year NSF grant for hosting a summer Research Experience for Undergraduates (REU). Summer 2011 was the first of the three years. Eight undergraduates, from freshmen to seniors, were brought in for ten weeks to work with a faculty research mentor on computational research problems. Thanks to the generosity of the Way Klingler College of Arts & Sciences and the Department of Mathematics, Statistics, and Computer Science, an additional six undergraduates were added to the program. A photo of the entire group is shown (at left). These 14 young women and men were on campus from May 31st until August 8th. During the final week, participants had a poster session, presented formal talks, and turned in technical papers on their research. Since that time, some have presented their summer research at conferences this past Fall.

In addition to working a minimum of 40 hours per week on research, there were opportunities to play. Students and faculty members participated in everything from Brewers games to Summerfest, from "bad sci-fi night" at the Brylow's to jazz in the park, and a host of other activities. All in all, it was a very full and quite fulfilling summer!

Undergraduates Party On

The fall Undergraduate Halloween Party was a rousing success this year. There were ten entrants in the costume contest, some of which consisted of groups of students. Our first place winners (shown above) were Margaret Fredericks and Hannah Guth as the "Pumpkin nrs." A Mexican buffet was served which provided the necessary 'fuel' for a great time shared by all.

Pi Mu Epsilon Induction Fall 2011

Dr. Gary Krenz was the featured speaker (pictured at right) at the Fall 2011 Pi Mu Epsilon induction, where 28 initiates were formally admitted to the honorary society. Congratulations!

The Fall 2011 Initiates: Eliza Buffington Kyle Kimminau William Gross Peter Jorgensen Brian Koves Patrick Lewandowski Kristine Manning Ericka Naber Eric Nequist Natasha Sahr Abigail Seafoss Diana Sramek Adam Weaizegers Andrew Wasz

Pi Mu Epsilon Induction Fall 2011

Dr. Gary Krenz was the featured speaker (pictured at right) at the Fall 2011 Pi Mu Epsilon induction, where 28 initiates were formally admitted to the honorary society. Congratulations!

The Fall 2011 Initiates: Eliza Buffington Kyle Kimminau William Gross Peter Jorgensen Brian Koves Patrick Lewandowski Kristine Manning Ericka Naber Eric Nequist Natasha Sahr Abigail Seafoss Diana Sramek Adam Weaizegers Andrew Wasz

PME Officers for Fall 2011: Caitlin Collins, President Konrad Herman, Secretary Justine Cabaj, Vice Pres. Thomas Gates, Treasurer
August 2011
Ph.D. MSCS (Biomathematics)
Bala Pandiyan
M.S. MSCS (Computational Sciences)
Ashley Zenisek
M.S. Computing
Praveen Varma Dandu
M.S. Bioinformatics
Fahad Hamoud Alqahtani
Prachi Pradeep
December 2011
M.S. MSCS (Computational Sciences)
Ferdaus Kawsar
Thomas McMahon
Sina Zulkernain
M.S. Bioinformatics
Kirthi Pulakanti
Maureen Tuffnell
B.S. Computer Science
Daniel Chrostowski
Adam Leszczewicz
B.S. Mathematics and Computer Science
Kristine Manning
B.S. Secondary Education and Mathematics
Lucy Cowles-Costigan
Nicholas Hammer
Kristin Pelzel
B.S. Elementary Education and Mathematics (MELT)
Zachary Sobota

Ph.D. recipient, Bala Pandiyan (pictured at right), at December 2011 Commencement.

Stephen B. Rodi
M.S. MSCS (Mathematics) ’67
Stephen Rodi received his master’s degree under the exceptional tutelage of Drs. Connellian, Swokowski, Bronkovich, Mullins and Hanneken, and a Ph.D. in Mathematics from The University of Texas at Austin in 1974, joining the faculty of Austin Community College in 1976 where, at age 70, he is currently teaching a full course load. He contributed to the complete solutions manual that accompanied Dr. Swokowski’s calculus. He taught at Marquette for a year, met and later married his wife at Gesu Church.

Recently, Stephen used his expertise in Latin translation to produce an article, in conjunction with Dr. Richard Palais of the University of California at Irvine and Dr. Robert Palais of the University of Utah, titled “A Disorienting Look at Euler’s Theorem on the Axis of a Rotation” which appeared in The American Mathematical Monthly in December 2009. In August, 2010 their article received the Lester R. Ford award from The Mathematical Association of America for outstanding exposition of a mathematical topic.

Meghan Sheehan
B.S. Computer Science ’99
Meghan Sheehan, a computer science major in the class of 1999, was featured in an alumni profile article in a recent edition of Marquette Magazine. Meghan was highlighted because of her unique career choice that combines her love of sports with a proclivity for numbers. She is currently the director of broadcast services for the Los Angeles office of STATS LLC, a world leader in providing sports data.

Meghan began her career at STATS as a computer programmer (she played basketball for the Golden Eagles) and now over sees the compilation of real-time statistics for thousands of professional and collegiate sporting events for network clients such as FOX Sports, CBS Sports, as well as the Associated Press and Wall Street Journal.

Tiffani Williams
B.S. Computer Science ’94
After receiving her undergraduate degree from Marquette, she attended the University of Central Florida, where she received a Ph.D. in computer science. This year she received the 2011 Denice Hopper Emerging Leader Award at the 2011 Grace Hopper Celebration of Women in Computing. As an associate professor in the Department of Computer Science and Engineering at Texas A & M University, Tiffani is currently pursuing research in the areas of bioinformatics and high-performance computing, specifically as it relates to reconstructing evolutionary trees (or phylogenies) of organisms. Tiffani’s dynamism extends to professional service, where she has served on several conference program committees and is currently the associate editor for Systematic Biology.

Ph.D. recipient, Bala Pandiyan (pictured at right), at December 2011 Commencement.

We would like to know where you are and what you are doing. Please send news and current address updates to: newsletter@mscs.mu.edu

Stephen B. Rodi M.S. MSCS (Mathematics) ’67
Stephen Rodi received his master’s degree under the exceptional tutelage of Drs. Connellian, Swokowski, Bronkovich, Mullins and Hanneken, and a Ph.D. in Mathematics from The University of Texas at Austin in 1974, joining the faculty of Austin Community College in 1976 where, at age 70, he is currently teaching a full course load. He contributed to the complete solutions manual that accompanied Dr. Swokowski’s calculus. He taught at Marquette for a year, met and later married his wife at Gesu Church.

Recently, Stephen used his expertise in Latin translation to produce an article, in conjunction with Dr. Richard Palais of the University of California at Irvine and Dr. Robert Palais of the University of Utah, titled “A Disorienting Look at Euler’s Theorem on the Axis of a Rotation” which appeared in The American Mathematical Monthly in December 2009. In August, 2010 their article received the Lester R. Ford award from The Mathematical Association of America for outstanding exposition of a mathematical topic.

Meghan Sheehan
B.S. Computer Science ’99
Meghan Sheehan, a computer science major in the class of 1999, was featured in an alumni profile article in a recent edition of Marquette Magazine. Meghan was highlighted because of her unique career choice that combines her love of sports with a proclivity for numbers. She is currently the director of broadcast services for the Los Angeles office of STATS LLC, a world leader in providing sports data.

Meghan began her career at STATS as a computer programmer (she played basketball for the Golden Eagles) and now over sees the compilation of real-time statistics for thousands of professional and collegiate sporting events for network clients such as FOX Sports, CBS Sports, as well as the Associated Press and Wall Street Journal.

Tiffani Williams
B.S. Computer Science ’94
After receiving her undergraduate degree from Marquette, she attended the University of Central Florida, where she received a Ph.D. in computer science. This year she received the 2011 Denice Hopper Emerging Leader Award at the 2011 Grace Hopper Celebration of Women in Computing. As an associate professor in the Department of Computer Science and Engineering at Texas A & M University, Tiffani is currently pursuing research in the areas of bioinformatics and high-performance computing, specifically as it relates to reconstructing evolutionary trees (or phylogenies) of organisms. Tiffani’s dynamism extends to professional service, where she has served on several conference program committees and is currently the associate editor for Systematic Biology.

Ph.D. recipient, Bala Pandiyan (pictured at right), at December 2011 Commencement.

We would like to know where you are and what you are doing. Please send news and current address updates to: newsletter@mscs.mu.edu

Stephen B. Rodi correctly guessed the last location as the observatory at Chichen Itza. For this issue’s photo, I finally took literally the occasionally offered advice to “go jump in the lake”. In which lake am I jumping?