Dear CS alumni, friends, and colleagues:

It is hard to believe that the fall semester of 2012 has ended. During this semester the computer science enrollment was up a great deal. In particular, our undergraduate enrollment reached 330 students, the highest in years. We also have 75 PhD students enrolled, a record high in the department history. We admitted the first cohort of students for the new MS in Information Technology program this semester. This is an online master’s degree program designed to meet the needs of IT professionals to advance their education. Students can complete the program no matter where they are—in the comfort of their own home, at work, or in hotel rooms while traveling. Prof. Bill Moloney is coordinating this program.

This semester also marked the era of the opening of new academic buildings at the university, which has not happened since the late 1970s. In particular, the $84 million Mark and Elisia Saab Emerging Technologies and Innovation Center (ETIC) was completed and opened in October. Moreover, a new 5-tier parking garage of more than 550 parking slots adjacent to the north campus Riverside Parking Lot opened in August, providing much needed parking space for faculty and students.

Professor Emeritus Tom Costello, a former long-time department of Computer Science chair, is currently visiting Dalian Nationality University of China in the capacity of Senior Advisor to the Chancellor. His visit is a follow-up to the 3+2 BS/MS collaborative education agreement between DNU and UMass Lowell signed in November 2012.

While many good things have happened, I am saddened to report that on August 25, 2012, Professor Emeritus Dr. Pat Krolak died in a fatal car accident in upper New York state. Prof. Krolak served as Director of the University Center for Productivity Enhancement (CPE) from 1984 to 1993. To celebrate his life and recognize his contributions to the university, the department is organizing a CPE reunion to be held at the ETIC on April 11, 2013.

This newsletter includes news items on faculty research activities and student achievements. I am sure you will enjoy reading them as much as I did. I am eager to hear from you about your achievements, thoughts, concerns, and suggestions on how to strengthen the UMass Lowell Computer Science Department for our students. I believe that a strong department will, in turn, help our alumni and make them feel proud of being graduates of our programs. If you would like to offer financial support to the department or to a specific program in the department, please specify that on your donation form.

Yours sincerely,

Jie Wang, PhD
Chair and Professor
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Faculty Highlights

**Prof. Xinwen Fu** is now an associate professor and has been appointed Associate Chair.

Prof. Fu received a new NSF grant of $50,000 to support his research on *I-Corps: Commercialization Feasibility Research and Demonstration Preparation for Third-Party Localization Toolkits.*

In October, Prof. Fu with his Ph.D. student Yinjie Chen and Nancy Saucier (Associate Director, New Venture Development) successfully completed the NSF Innovation Corps program (*I-Corps*) at the University of Michigan, Ann Arbor. Prof. Fu’s team is the first in the NSF I-Corps program from UMass Lowell.

**Prof. Georges Grinstein** received five grants totaling $172,503 since the summer. One was awarded by Charles River Associates for Business Intelligence Visualization for *Organizational Understanding, Analysis and Collaboration.* The second was awarded by LongShortWay, Inc. for *Visualization in Support of One Class Classifiers.* The third was awarded to Prof. Grinstein with Prof. William Mass from the Massachusetts Department of Early Education and Care for Weave-based Interactive Visualization Research. The fourth was awarded by The Boston Foundation for *Weave Research and Development.* The fifth was also awarded to Prof. Grinstein and Prof. William Mass from Community Teamwork Inc. for *Community Teamworks: Beta System Integration Assessment.*

Prof. Grinstein and 13 of his students attended the annual international VisWeek conference, where he chaired the annual VisWeek VAST challenge. Prof. Grinstein presented the paper *A Reflection on Seven Years of the VAST Challenge* (co-authored with Jean Scholtz and Mark Whiting from Pacific Northwest National Laboratory and Catherine Plaisant from University of Maryland) at the workshop *Beyond Time and Errors: Novel Evaluation Methods for Visualizations.*

**Prof. Fred Martin** received a $106,498 NSF grant for research on *Computational Thinking Through Mobile Computing.* This is a $600K collaborative project with MIT, Wellesley College, Trinity College, and the University of San Francisco to develop introductory, general education CS courses for undergraduates. Prof. Martin and Prof. Karen Roehr (Art Department) will offer a new joint course to UMass Lowell students in fall 2013.

Prof. Martin also received a two-year grant from Google Inc. to support his research on *Video Analytics on Android for High School Science Projects.*

**Prof. Jie Wang** received two NSF grants. The first was $140,000 for his research on *Collaborative Research: Spectrum Efficient Waveform Design with Application to Wireless Networks.* The second is co-awarded with Prof. Wei Cheng for $100,000 for their research on *EAGER: Collaborative Research: Time-Critical Localization in Mobile Networks.*

In October 2012, Prof. Wang was appointed Director of China Partnerships by the Consortium of Mathematics and Its Applications. In this capacity Prof. Wang was charged to work with the Chinese counterpart of Mathematical Modeling and promote the Mathematical Contest in Modeling, the Interdisciplinary Contest in Modeling and the High School Mathematical Contest in Modeling in China.

**Prof. Holly Yanco** received three grants. The first was awarded by the National Science Foundation for $201,298. It is a $1.6M collaborative project led by UMass Amherst and Georgia Tech. The UMass Lowell subcontract involves adapting the Artbotics curriculum for Lego Mindstorms. The title of this research is *BPC-A: Expanding Computing Education Pathways Alliance.* The second is a collaboration with Boston Engineering funded through the DARPA STTR program with the goal of turning the design of robot interfaces from an art to a science. The third is funded through the UMass President’s Office Science and Technology Fund. The New England Robotics Validation and Experimentation (NERVE) Center will house robot test courses that will be available to UMass Lowell faculty and students, local companies, and other local universities.
New Faculty 2012

Dr. Sarita Bassil joined the department as a lecturer in January 2012. She comes with rich teaching experience. Dr. Bassil received her B.Sc. (1998) in Applied Mathematics from Lebanese University, Lebanon. She obtained her M.Sc. (2001) and Ph.D. (2005) in Computer Science from the University of Montreal, Canada. Before joining us, Dr. Bassil was an assistant professor at Marshall University (2007-2009) and Holy Spirit University of Kaslik, Lebanon (2005-2006).

Dr. Bassil has been awarded professional membership in the Association for Computing Machinery; she was a full member in Sigma Xi, The Scientific Research Society; she also was a faculty member (2008) in MU-ADVANCE program.

Dr. Anne Mulhern joined us as a lecturer this semester. She will primarily be teaching lower-level undergraduate core courses. Dr. Mulhern received her B.S. (1991) in Civil Engineering from Penn State University and her M.S. and Ph.D. (2010) in Computer Science from the University of Wisconsin-Madison.

Dr. Mulhern’s principal interests are logic and languages. She finds the Curry-Howard isomorphism, which describes a fundamental relationship between logic and programming language type-systems, a fascinating subject.

Dr. Mulhern attended the High Integrity Language Technology 2012 conference in Boston. She also won a flashlight/laser pointer for proving (by hand) that a small program written in Ada could not have any dynamic errors.

Prof. Tingjian Ge joined us as an assistant professor at the beginning of this year. Dr. Ge received his B.E. (1994) in Computer Science from Tsinghua University, China. He earned his M.S. (1998) in Computer Science from the University of California, Davis, and his Ph.D. (2009) in Computer Science from Brown University. Before Dr. Ge came to UMass Lowell, he was an assistant professor at the University of Kentucky.

Prof. Ge’s research area is data management, including probabilistic and uncertain data, scientific data, and data security and privacy. His expertise is Data Management Systems.

Prof. Anna Rumshisky joined the department as an assistant professor this semester. Dr. Rumshisky received her Ph.D. in Computer Science from Brandeis University in 2009 and did a postdoc training at MIT CSAIL. Her undergraduate degree is from Moscow State University.

Prof. Rumshisky’s research area is natural language processing, with applications in clinical informatics, computational lexical semantics, and text processing for digital humanities and social science. Her work focuses on the development of data-informed unsupervised learning methods as well as on leveraging existing resources and information-harvesting techniques.

Prof. Rumshisky organized (with collaborators) the 2012 i2b2 Clinical NLP challenge, which is the 6th annual community-wide effort to encourage the development of technologies for information extraction from clinical text. They also ran a workshop for this competition at the American Medical Informatics Association 2012 Annual Symposium in November 2012 and gave a paper at the symposium on learning to automatically distinguish words with multiple possible meanings in the shorthand, such as: poorly understood even by lay humans—clinical notes written by doctors.

Prof. Kate Saenko joined the department as an assistant professor this semester. Dr. Saenko received her B.Sc. in Computer Science from the University of British Columbia, Canada, in 2000 and her Ph.D. in Electrical Engineering and Computer Science from the Massachusetts Institute of Technology in 2009. Between 2009 and 2012 she was a postdoctoral researcher appointed jointly at UC Berkeley and Harvard.

Prof. Saenko’s interests are in developing machine learning methods for computer vision applications, including object recognition, transfer learning and adaptation, color models and joint semantics of images and language.

Dr. Karim Ali is working with Prof. Saenko this semester as a postdoctoral fellow.

Dr. Anne Mulhern

Dr. Sarita Bassil
Undergraduate Co-op Program

The Computer Science Department’s co-op program provides CS students with the opportunity to gain multiple, 3 or 6 month professional work experiences related to their academic discipline. We are excited to report that in the summer of 2012 our first cohort of 15 CS students was actively employed in a broad range of companies. This past fall an additional 20 CS undergraduates joined the co-op program. Students in the co-op program are well supported by Sandhya Balasubramanian, the Assistant Director of Cooperative Education, who is specifically affiliated with the College of Science and guides students to prepare for and successfully participate in the co-op experience.

FEATURED: TIM COHEN, Computer Science

Tim Cohen’s first co-op was at Mercury Computer Systems (summer 2012), where he worked on embedded software development on PPC and Intel products - running baseline performance tests on some of Mercury's hardware. Tim is eager to begin his next co-op - for 6 months at Exa Corporation in Jan. 2013, where he will participate in the design and development of new product features in an exciting product suite and use a variety of technologies to develop modern graphical applications.

UMass Lowell Computer Science Co-op Employers

Many regional CS employers, including IBM, EMC, Progress Software, Lionbridge Technologies, RedHat, Symantec, Hitachi Data Systems, Philips Color Kinetics, TYBRIN and EXA Corporation, are partnering with UMass Lowell through our professional co-op program for Computer Science recruiting both 3-month summer and 6-month co-ops.

IVPR Update

It has been an active summer and fall for researchers in the Institute for Visualization and Perception Research (IVPR). The group has expanded research and development of its Weave software. This summer, five IVPR students, Sanjay Anbalagan, Andrew Dufilie, John Fallon, Heather Granz and Sebastin Kolman, were accepted into the Google Summer of Code program. Each student worked to expand Weave. All source code developed by the students during the program has been released as open source.

On November 27, the Boston Foundation launched its new Boston Indicators Project website. The culmination of more than a year of collaborative work with UMass Lowell’s IVPR, this new site features Weave-based data visualization tools. Prof. Georges Grinstein and five IVPR graduate students attended the Nov. 27 launch, where they were introduced and thanked for their work.

IVPR graduate students Merve Tuccar, Ekaterina Galkina, Heather Granz, Sebastin Kolman and Kathy Sheldon represented the Weave development team at the recent launch of the Boston Indicators Project website.
Teaching and Learning Here and Across the World

Prof. Cindy Chen was a Co-Chair at the DBMe Workshop (in conjunction with ACM SIGMOD) at Phoenix this May. She also attended EMC University Day in Boston as a Panelist this June.

4:00 AM doesn’t seem like a popular time for a class, but that is when you have to be ready to go if you’re lecturing to students in Poland when it’s 10:00 AM their time. So the day before Thanksgiving, November 21, 2012, Prof. Jesse Heines was up very early. At 3:30 AM he was checking out his Google Hangouts connection to make sure that everything was working before he connected to Adam Mickiewicz University (AMU) in Poznań, Poland, at 4:00 AM. That’s when he delivered a presentation entitled “Human Factors in Web Programming” to students in Prof. Krzysztof Jassem’s “Creating Information Systems” class at AMU. The accompanying screen shot shows Jesse’s screen as the Polish students were coming into the lecture hall while Krzysztof was still checking the microphone.

After a brief break for breakfast, Jesse was off to the UMass Lowell for another hookup with the Polish students, but this time the connection was directly between the students. The Polish students connected to students in Jesse’s 91.461 GUI Programming I class, sharing screens and code to write descriptions of courses at AMU using JSON-based templates developed here at UMass Lowell.

This collaboration grew out of a program sponsored by the Provost’s office, under which Jesse visited AMU on an exchange for two weeks in May 2012. During that visit Jesse met with students as well as professors, attended classes, made presentations on his own work, and learned about the higher education system in Europe. It was a wonderful educational experience, made even better by the continuance of the collaboration and the opportunity to share it with UML CS students.

Brendan Reilly (seated) discusses his self-learning blackjack player with Ben Chevoir and Jonathan Yu (L-R, back), a final project from Prof. Fred Martin’s Artificial Intelligence course. Students demonstrated 15 projects in the Olsen Hall 3rd-floor lobby on December 6, 2012.

Prof. Haim Levkowitz taught a tutorial and participated in a panel at SIBGRAPI 2012, the South American computer graphics, visualization, and imaging conference, August, Ouro Preto - MG, Brazil.

Prof. Levkowitz visited UNICAMP, the State University of Campinas - SP, Brazil, where he met with members of the administration to discuss a cooperation agreement between UNICAMP and UMass Lowell. He was invited to return in March 2013 for a lecture at the Institute for Computing.

Prof. Levkowitz also visited PUC-Rio (a university in Rio de Janeiro, Brazil) where he will also meet with their administration to discuss cooperation with UMass Lowell, give a talk, and become a co-advisor of a graduate student.

Three photos from 5,000, this semester’s Artbotics show, held on December 7, 2012, at the 119 Gallery in Lowell. Artbotics is a project-based class that focuses on exploring the intersection of art, computer science, and robotics. The projects created by undergraduates all included ping pong balls, ranging from one to many — for a total of 5,000.

The Department held a pizza party on Reading Day (Dec. 11) in the 3rd Floor Lobby.
Alumni News

Harshavardhan (Harsh) Achrekar, PhD ’12 is employed by the Community Analytics division of eClinicalWorks, a market leader in ambulatory clinical systems.

Jeremy Badessa, BS ’10 is a Software Engineer at Symbotic in Wilmington, MA. He plans to start an indie game studio to develop multi-player competitive educational video games.

Aron Barabas, BS ’04 is an Enterprise Support Engineer at HP, working in its backup software division. He deals with hardware networking and software, mainly on the server side. Aron says, “The critical thinking and all the problem solving we learned in the Robotics lab with Holly and Fred comes in handy every day. I also formed some lasting friendships working on robots. There are things I could have done better and not a day goes by when I don’t think I should have paid more attention in my SQL classes at UML.”

Andrew Chanler, BS ’05 & MS ’07 has been happily working at EMC writing software for the Symmetrix data storage array since he graduated. Andrew and his wife Sarah (Konola) Chanler (UML BS Exercise Physiology ’05 and Doctor of Physical Therapy ’08) bought a house in Berlin, MA, and are expecting their first child next year!

Munjal Desai, PhD ’12 is moving to California to work at Google's headquarters in Mountain View.

Syed Farooq, MS ’12 is a lecturer in the computer science department at the National University of Computer and Emerging Sciences in Pakistan. He is teaching operating systems and mobile computing to undergraduate students. Syed “really misses Lowell, the university, the community and especially the professors” and sends his thanks for “making my stay worthwhile.”

Adrien Grise, BS ’95 & MS ’03 is presently working for International Game Technologies in Las Vegas, NV. He previously worked for Cisco Systems (8 years) and Bigelow Aerospace (3 years).

Ahmed Hafeez, BS ’94 is a Director of Software Development at Bottomline Technologies where he manages the banking services software delivery group for a portfolio of large banks. When not busy with his twin daughters, he enjoys playing cricket and building and flying model airplanes.

Dan Hestand, PhD ’11 is currently the Software Engineering Manager for the Unmanned Systems Group at QinetiQ North America.

Surendran Karavettill, MS ’05 is a product manager for business process management software in the financial services industry at Pegasystems in Cambridge, MA.

Rachit Mathur, MS ’12 is a Test Engineer II with F5 Networks as in Seattle, WA. Rachit recalls his “wonderful and challenging 2-year experience working and studying at Umass Lowell.”

Joel Michel, BS ’06 & MS ’09 is a Senior Software Engineer at Symantec Corporation, working on the Norton consumer products line, most recently focusing on Android Mobile development. Joel says, “I enjoy my job, but I miss playing with robots in Fred's lab!”

Michael Penta, BS ’06 and MS ’11 is a full-time faculty member in the Dept. of Computer and Information Sciences at Northern Essex Community College.

Harish Rathi, BS/MS ’05 works with RIM in Andover, MA.

Chris Robichaud, BS ’06 is at Symantec Corporation in Waltham, MA, working on front and back-end Web and Android development.

Beibei Yang, PhD ’12 works at EMC in Franklin, MA, where she develops training materials for data scientists. Beibei and Andy Dufilie MS ’08 were married in China on December 7, 2012.

Dear alumni—please send your updates to Fred Martin, fredm@cs.uml.edu.

New MS and PhD Graduates

Harshavardhan Achrekar, PhD, Online Social Network Flu tracker – a Novel Sensory Approach to Predict Flu Trends. (Advisor Dr. Benyuan Liu)

Keith Bagley, PhD, Conceptual Mile Markers to Improve Time-to-Value for Exploratory Search Sessions. (Advisor Dr. Haim Levkowitz)

Munjal Desai, PhD, Modeling Trust to Improve Human-Robot Interaction. (Advisor Dr. Holly Yanco)

Anthony Gabrielson, PhD, An Application-Independent Cryptography Model That is Easy to Use for All Level of Users. (Advisor Dr. Haim Levkowitz)

Beibei Yang, PhD, Semantic Relatedness for Evaluation of Course Equivalencies. (Advisor Dr. Jesse Heines)

Christopher Granz, MS, μPINPoint: An Inexpensive Data Logger for Scientific Experimentation and Education. (Advisor Dr. Fred Martin)
Selected Publications


“Protocol-level Attacks against Tor,” Zhen Ling, Junzhou Luo, Wei Yu, Xinwen Fu, Weijia Jia, and Wei Zhao, *Computer Networks*, 2012, Accepted.


“Top-K Oracle: A New Way to Present Top-K Tuples for Uncertain Data,” Chunyao Song, Zheng Li, Tingjian Ge, To appear as a full research paper in the Proceedings of the IEEE 29th International Conference on Data Engineering (ICDE 2013), Brisbane, Australia, April 2013.


Because of you, UMass Lowell students can achieve their dreams. Your contribution helps students acquire the knowledge and skills essential for their careers. Through your support, they graduate work ready, life ready, and world ready. Gifts to the Computer Science Department or the College of Sciences Dean’s Fund enable faculty and staff to enhance academic programming, keep equipment up-to-date, and fund research.

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