Dear CS alumni, friends, and colleagues:

I am delighted to share with you that the New England Robotics Validation and Experimentation (NERVE) Center, directed by Prof. Holly Yanco, has now become a reality. It is one of the four state-of-the-art robotics testing facilities in the country and the only one in New England.

To promote and strengthen the teaching and research activities of cyber security at UMass Lowell, the university has merged the Center for Network and Information Security (directed by Prof. Jie Wang) and the Center for Cyber Forensics (co-directed by Prof. Xinwen Fu and Prof. Jie Wang) to a new center called the Internet Security and Forensics Entrepreneurs (I-SAFE) Center. Prof. Wang is the Director and Prof. Fu is the Associate Director.

To honor the legacy of Prof. Patrick Krolak, the Center for Productivity Enhancement (CPE) and the Department of Computer Science Reunion took place on April 11, 2013. This event was organized by the alumni programming committee of Rich Miner, Frank Drake, Chuck Kosta, and Dave Pelland.

I am pleased to tell you that a group of alumni of the Department of Computer Science, under the leadership of Rohan Coelho, formed the West Coast Tech Network early this year. This is a California-based alumni organization.

You will find details of the above four events in this issue of the Department Newsletter. The newsletter also includes other 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
wang@cs.uml.edu
978-934-3649
April 11, 2013 reunion draws over 80 UMass Lowell alumni, faculty, staff, and students

Joy and sadness were on display in ample quantities at an April 11, 2013, reunion for alumni of Prof. Pat Krolak’s Center for Productivity Enhancement (CPE).

The event celebrated the powerful impact that Prof. Krolak had on so many members of his research group over the 10 years of the Center’s work—an influence that continued through their professional and personal life paths.

The event was held at the newly opened Mark and Elisia Saab Emerging Technologies and Innovation Center (ETIC)—a center focused on university-industry collaboration and cooperation. It was organized by alumni of the CPE—Rich Miner ’86,’89,’97, Frank Drake ’87, Chuck Kosta ’85,’90,’96, and Dave Pelland ’88,’90.

Tragically, Prof. Krolak, his wife Rita, and their eldest son Patrick died in an automobile accident in upstate New York in August 2012.

The reception included an exhibit of artifacts from the heydey of the Center, when members traveled across the country showing its technological innovations at major trade shows. Center members, then representing the University of Lowell, were often the only students at these industry events. They developed and exhibited cutting-edge technology in computer imaging, intelligent image recognition, collaborative robotic manufacturing, and AI.

Alumni took turns speaking, some with prepared remarks and others inspired by the moment. Dave Pelland described “the incredible opportunities” that Krolak provided to Center members and how he “pushed us to succeed by constantly challenging our notions of what was possible.” Chuck Kosta remembered that “he taught us to work hard” but also reminded his students “that ultimately technology is created for people.”

The event was attended by the Krolaks’ two surviving children, Karen and Michael. The highlight of the evening was when Karen Krolak described her father’s humble beginnings, culminating with his faculty position at Lowell. Krolak had turned down a faculty offer at MIT to come to Lowell, realizing that he would develop a stronger bond with the Lowell students. Ms. Krolak brought many in the room to tears as she described what it had meant to Pat to have so many of his students be such a large part of his life.

Near the end of the event, Prof. Jim Veatch (Art Department) asked for a minute of silence and personal remembrance.

In April 2012, Rich Miner announced a gift to the university at an alumni awards event, establishing the Prof. Patrick D. Krolak Innovation Endowment. Prof. Krolak was in attendance, and the announcement took him completely by surprise.

(See CPE Reunion on next page)
West Coast Tech Network of CS Alumni Launches on Pi Day

In August 2012, Prof. Fred Martin traveled to Silicon Valley to meet with UMass Lowell alumni. The trip was organized by College of Sciences Advancement Officer Demetra Gys.

Martin met with Rohan Coelho, who finished his MS degree with the CS department in 1989. While he was a student, Coelho worked in Prof. Pat Krolak’s Center for Productivity Enhancement. Afterward, Coelho built a successful career working on graphics technology and microprocessor pipelining techniques for Intel. More recently, Coelho has launched several of his own companies in the medical informatics space. His present company, Rexanto Inc., provides technology to retail pharmacies, increasing prescription accuracy and reducing costs.

Martin met with Coelho at the Plug and Play Tech Center in Sunnyvale CA, a startup incubator where Coelho’s company is housed. After the visit, Coelho, Martin, and Gys worked together to hold an event for UMass Lowell alumni living in Silicon Valley and the Bay Area (San Francisco) and working in the technology sector.

Coelho offered to host the event at the Plug and Play Tech Center. The meeting was held on Pi Day—March 14, 2013—as the inaugural meeting of the “West Coast Tech Network.” Fourteen UMass Lowell alumni participated, spanning 40 years of industrial experience—alums who attended Lowell Tech in the 1960s through those just a year out.

After a brief presentation on the University and the CS Department by Martin and Gys, Coelho led a wide-ranging conversation. The group discussed the value of co-op programs, the need for people with broad, multi-disciplinary backgrounds (not just computer science), the importance of project work during the undergraduate years, and the strength of the UMass Lowell students’ work ethic.

Many of the alumni appreciated the opportunity to connect. Coelho remarked, “Many of us had not visited UMass Lowell in years, and we were amazed by the advancements. We are excited by the vision and the energy and drive present in the University, and we’re eager to contribute to the unfolding vision.”

The Department will build on this formational work with a follow-up visit in fall 2013. The UMass Lowell West Coast Tech Network will complement the regional CS Industrial Advisory Board, which was formed in 2008. The alumni groups provide advice to the Department and employment opportunities to its students and serve as professional resources for each other.—Fred Martin.

The fund will disburse scholarships to students who exhibit entrepreneurial promise like that valued by Pat Krolak. If you wish to donate to the fund, please contact the UMass Lowell Office of Alumni relations at alumni_office@uml.edu or 978/934-3140.—Fred Martin
Faculty Highlights

Prof. Georges Grinstein received new funding to support his Weave project: Houston Futures ($75,000), The Boston Foundation ($10,000), and about $4,000 in two other grants.

Prof. Fred Martin received a grant from Google to run CS4HS 2013 at UMass Lowell, the third annual computer science education conference for middle and high school teachers ($14,000).

Prof. Jie Wang accepted an offer as a Short-term High-level Visiting Scientist in the International Academic Talents (IAT) Base on Key Technologies for Telecommunications and Networks for the Development of University Disciplines in China.

Prof. Holly Yanco received a grant from NASA and National Institute of Aerospace to develop a contest robot for the “2013 RASC-AL Robo-Ops Challenge” ($10,000).

Holly Yanco was one of 20 Massachusetts leaders honored as “Women to Watch” for 2013

“Women to Watch” was held at the Boston Westin Waterfront on May 9, 2013. The award was given by the Mass High Tech Council and the Boston Business Journal in their 10th ceremony. As part of the event, $3,200 was raised for the Science Club for Girls.

In her remarks accepting the award, Prof. Yanco urged Massachusetts to adopt K–12 standards for computer science education and to make sure that all children in the state have the opportunity to learn computer science.

Student Recruitment in China

Prof. Jie Wang continued to work with universities and high schools in China as Director of China partnerships of the university to recruit BS and MS students. He has been working with Beijing University of Posts and Telecommunications Century College to set up a class of 22 students for the BUPT-UML 3+2 program. He met 19 of these students on May 12, 2013, and held a Q&A session. These students have been at BUPTCC for one year already, and most of them (if not all) are expected to enter our MS in Computer Science program in fall 2015. Prof. Wang is now working with them to recruit a BUPT-UML Class 2013 with a target of 30 students.

Student Achievements

John Fallon, a graduating senior, received Honorable Mention in the Computing Research Association’s Outstanding Undergraduate Researcher Award for 2013. He also received an Honorable Mention Award from the Council on Undergraduate Research—Posters on the Hill, placing in the top 10%—with a poster entitled “Collaboration in Weave.”

Zheng Li, a PhD student, won the highly competitive ICDE-13 Oracle Travel Scholarship—only two students were awarded among all applicants to this top-tier conference in data management. The award also included a trip to Oracle Lab in California to give a talk on the ICDE paper titled “Top-K Oracle: A New Way to Present Top-K Tuples for Uncertain Data.”
NERVE Center Opens

On February 12, 2013, the grand opening of the New England Robotic Validation and Experimentation (NERVE) Center was held at 1001 Pawtucket Boulevard, Lowell, MA. The center will serve as a “proving ground” for robots — a place where these complex machines will undergo rigorous testing to prove their strength, durability, design and functionality — and, in the process, help accelerate robotics research and development across the region.

Developed in collaboration with the U.S. Department of Commerce National Institute of Standards and Technology (NIST) and the U.S. Army, the 9,000-square-foot NERVE Center features a dozen dedicated courses that challenge the robots’ abilities to negotiate obstacles and traverse rough, uneven terrains and various surface materials (plywood, sand, gravel, cobblestone, brick, vinyl, tile, carpet, etc.).

“The NERVE Center will be the most advanced robotics testing facility in the United States and the most easily accessible to robotics companies and researchers, not only in New England, but also those in the Northeast,” said Chancellor Marty Meehan. “In fact, the only two other high-level test facilities in the country are located in Maryland and Texas.”

In addition to catering to companies, the center will also support the education and hands-on training of undergraduates and graduate students, including undergrads minoring in robotics, said Prof. Yanco.

— Edwin L. Aguirre

I-SAFE Center Formed

To help strengthen our country’s cyber defenses and protect national security, jobs and privacy, the University merged its Center for Network and Information Security and Center for Cyber Forensics to form a new Center for Internet Security And Forensics Entrepreneurs (I-SAFE).

“Its mission is to research and develop cyber security and forensics theory, techniques and toolkits that will play a critical role in public safety and security response by enterprise campuses, federal and state law enforcement and national cyber-defense forces, including the military,” says Prof. Jie Wang, who chairs the Department of Computer Science.

Other faculty members of the center include Benyuan Liu, Cindy Chen, Tingjian Ge and Guanling Chen of Computer Science, Tricia Chigan of Electrical and Computer Engineering and Kyung Seok Choo of Criminal Justice.

Among I-SAFE’s major research focus are cloud authentication and query of encrypted storage, security and privacy of networks, mobile devices, databases and wireless and social networks, physical security via sensor networks, computer and network forensics and criminal justice and global studies.—Edwin L. Aguirre

— Edwin L. Aguirre

Prof. Jie Wang presents his poster announcing the new Center for Internet Security and Forensics during this year’s Faculty Research Symposium.

Another student stands next to a robot.
Adem Albayrak  BS ’09, MS ’12 graduated out of Dr. Georges Grinstein’s IVPR lab. He has been employed in the life sciences industry for the last several years. He led development of Knome’s desktop based end-user applications and is now at BIOBASE in Beverly, MA, where he serves as Product Manager for software and data of genomic-to-drug response associations.

Keith Bagley  PhD ’12 is a Technical Business Leader for IBM’s Rational software. In July, he will move to a new position as a Strategist for IBM’s Software Group. Keith is also continuing his academic studies: he is enrolled at Rockbridge Seminary, expecting to finish his Master of Divinity (MDiv) in 2015.

Alex Baumann  BS ’04, MS ’06, PhD ’11 is a lead software developer at Knome Inc., a BioTech startup company in Cambridge, MA, focusing on human genome interpretation. Baumann is currently working on its new product, knoSYS, a hardware and software solution for clinics to help analyze and interpret DNA sequencing data.

Amr Elbasiony  MS ’99, PhD ’11 works in the medical device industry. He is a Senior Software Engineer developing code for patient monitors at the Andover, MA branch of Draeger Medical.

Zheng Fang  PhD ’12 is a Software Engineer at Facebook, working on the news feed and timeline infrastructure. He is leveraging his doctoral work on “Statistical Characteristics and Similarities of Substructures between Knowledge Networks,” which was supervised by Prof. Jie Wang.

Mike Feole  BS ’11, MS ’13 works at Redline Trading Solutions in Woburn, MA. Mike says, “Without the motivation and assignments of the UMass Lowell CS department, mainly Computing I and II and Grad OS I and II, I would not understand what happens at a low level when I write code optimizations.” That’s Jim and Bill he’s talking about!

Flavio “Gute” Fernandes  BS ’07 works at Plexxi, a startup in Cambridge, MA, that’s created a product that breaks light into lambda channels to switch Ethernet frames. He’s coding in Erlang, the highly concurrent, highly reliable language originally developed for telephonic switches.

Anthony Gabrielson  MS ’08, PhD ’12 is employed at BAE’s Cyber Operations and Networking Group.

Sreeja Kaimal  BS ’10, MS ’11 (in Innovation and Technical Entrepreneurship) is a Senior QA Engineer at Vistaprint in its Digital Products department. She and her husband are expecting their first child in July 2013!

Aaron Little  BS ’05, MS ’07 is a Senior Product Developer at BMC Software in Lexington, MA, working on data center automation software. He lives in Chelmsford and will be marrying his fiancée Lisa Butler (Wellesley College ’13).

Elad Shahar  BS ’12, MS ’13 works for NetScout Systems in Westford, MA, as a Software UI Engineer. In his free time, he makes iOS apps, primarily games.

Dave Smaldone  BS ’86, MS ’88 is Director of Administrative Information Systems at Mount Ida College, in Newton, MA. He also volunteers as advisor to the college’s Outdoor Club, and over the years has taken students white water rafting, snow shoeing, snowboarding, hiking, sailing, indoor rock climbing, and zip lining!

Ryan Tucker  ’97 is Senior Software Engineer at Aspect Software in Chelmsford, MA, where he develops chat software. This spring, Ryan taught UMass Lowell’s 91.211 CS for Sound Recording Technology course. He recently purchased a house in Tyngsboro, MA, with his wife Wende Donahue and his two-year-old son David.

Bo Yan  PhD ’12 is a Senior Software Engineer at MicroStrategy in Tysons Corner, VA. He works on MicroStrategy’s mobile commerce platform, which brings business intelligence into social media areas.

Beibei Yang  MS ’09, PhD ’12 works at EMC Ed Services developing courses on Data Science. She was recently recognized with the Excellence @ EMC Innovating to Drive Change Platinum Award and will soon travel to Shanghai to teach courses in Data Science in Mandarin. Betty says, “I’m so glad I took courses such as Algorithms, Data Mining, Database, and Data Visualization at UMass Lowell. They really help me getting the work done!”

Dear Alumni—please send your updates to Fred Martin, fredm@cs.uml.edu
**Selected Publications**


**New BS, MS and PhD Graduate Theses**

**Evana Gizzi**, *Infusing Computer Science into Middle School Math and Science Classrooms: A Pilot Study*, BS with Honors in Mathematics and minor in Computer Science. Thesis committee: Fred Martin (chair) and Marvin Stick (Mathematics).

**Sean Cronin**, *Predicting Bus Arrival Times Using Random Forests*, BS with Honors in Computer Science. Thesis committee: Fred Martin (chair) and Holly Yanco.


**Junwei Huang**, *A Comprehensive Study of Network Forensics in Terms of Laws and Technologies*, PhD in Computer Science. Thesis committee: Xinwen Fu (chair), Benyuan Liu, Yan Luo (Electrical and Computer Engineering), and Jie Wang.

**Hui Li**, *Network Forensics Education Project and Survey Evaluation*, MS in Computer Science. Thesis committee: Xinwen Fu (chair) and Benyuan Liu.


**Ramya Srinatha**, *Student Analytics for Course Recommendation*, MS in Computer Science. Thesis committee: Fred Martin (chair) and Karen Daniels.

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This issue was edited by Dr. Junwei Huang and Prof. Fred Martin
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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