

Computer Science



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From the Department Head



Hi. I am happy to report that we were able to hire three new CS@VT faculty members as a result of successful faculty searches during 2012-2013. This fall we are welcoming Dr. Changhee Jung from Georgia Tech whose areas of research specialty are compilers, computer architecture and run-time systems. In January 2014, we will be joined by Dr. Dongyoon Lee from University of Michigan and Dr. Manish Jain from USC. Dr. Lee's research in deterministic multiprocessor replay lies at the intersection of operating systems, computer architecture and program analysis. Dr. Jain is an expert in computational game theory, large-scale optimization and artificial intelligence. We are fortunate to welcome such accomplished junior faculty members to the department.

This academic year has shown real accomplishments in diversity. About 75% of the faculty participated in some diversity activity this year, including outreach events at high schools, lunches with prospective CS majors among COE freshmen, summer programs for high school and middle school students attending COE CEED activities, and research with undergraduates from groups underrepresented in computing. Our work with NCWIT on *Pacesetters* and the *VA/DC Aspirations in Computing* continues. As of this fall, we have 6 young women who are national or regional Aspirations winners in our CS majors cohort; we are very excited to be attracting these talented young women to our undergraduate program.

This spring we inaugurated an end-of-academic-year celebration of CS@VT featuring our undergraduate research poster competition (VTURCS) with judges from the faculty and our CSRC member companies, a new graduate research poster session, and an awards dinner. Associate Dean Jack Lesko represented the College of Engineering at the event and remarked positively on the many graduate and undergraduate award winners. About 100 people – faculty, staff, students, their families – attended the dinner which clearly will become an annual awards event in the department.

Reporting our 'output' during the past academic year, we graduated 128 CS BS, 36 MS, and a record 32 PhD degree recipients (24% of our PhD grads were female, above the nationwide average of 18% reported by the latest Taulbee Survey). Currently, we have about 520 declared CS majors, 167 PhD and 61 MS students. Clearly we are experiencing the national up-tick in student interest in CS.

Our research funding profile is stronger than ever. At the end of fiscal year 2013, CS@VT had \$34.6M in total research awards as compared to \$20.8M at the end of fiscal year 2008 (i.e., June 30, 2008). The total funding from new awards in fiscal year 2013 was \$3.9M, plus an additional \$4.3M in funding from existing awards. This is a very healthy funding profile.

2013 VA/DC Award for Aspirations in Computing



Left to right, back row: Allison Collier, 2013 National Award Winner and 2012 Virginia/D.C. Regional Winner, Joche Koomson, 2013 VA/DC runner-up, and winners Michelle Wang, Selena Feng, Vanessa Gentry, Breanne Long, Pooja Chandrashekar; middle row: Wei Low, Hannah Throckmorton, Jordan Newton; seated: Shelby Evans, Rachel Blacker, Zoya Mahajan, and Jaclyn Lasky.

The Virginia/Washington, D.C., affiliate of the [National Center for Women in IT](#) held its second annual Award for Aspirations in Computing ceremony March 23 at the [Virginia Tech Research Center -- Arlington](#), honoring a high school teacher and 14 high school students for their efforts to, respectively, teach and learn computer science.

The affiliate includes founding members George Mason University, Virginia Tech, and the University of Virginia, as well as new members James Madison University, Norfolk State University, University of Richmond, Virginia State University, and the College William & Mary.

Co-chairs of this year's competition were Virginia Tech's Libby Bradford, director of external relations and undergraduate studies in the Department of Computer Science, and computer science professor and department head Barbara Ryder.

Sharon McPherson of Stafford, Va., a teacher at Colonial Forge High School, received the 2013 Outstanding Educator award from the affiliate.

Student winners were:

- Rachel Blacker of James Madison High School in Vienna;
- Kyla Bouldin of Washington-Lee High School in Arlington;
- Pooja Chandrashekar of Thomas Jefferson High School in Alexandria;
- Shelby Evans of Deep Run High School in Glen Allen;
- Selena Feng of Albemarle High School in Charlottesville;
- Vanessa Gentry of Atlee High School in Mechanicsville;

Student winners continued:

- Jaclyn Lasky of Chantilly High School in Chantilly;
- Breanne Long of Shenandoah Governor's School in Fishersville;
- Wei Low of Gar-Field High School in Woodbridge;
- Zoya Mahajan of Stone Bridge High School in Stone Bridge;
- Jordan Newton of Deep Run High School in Glen Allen;
- Hannah Throckmorton of Halifax County High School in South Boston;
- Nnedimma Ugochukwu of Benjamin Banneker High School in Washington, D.C.; and
- Michelle Wang of Thomas Jefferson High School in Alexandria.

Student runners-up were::

- Jessie Baker of Stonewall Jackson High School in Quicksburg;
- Natasha Billard of E.C. Glass High School in Lynchburg;
- Corinne Brodowski of Semper Doctrina (home school) in Purcellville;
- Kaneshia House of Thurgood Marshall Academy Public Charter High School in Washington, D.C.;
- Joche Koomson of Massaponax High School in Fredericksburg;
- Natalie Oldenburg of Bishop Denis J. O'Connell High School in Stone Ridge; and
- Patricia Tran of Thomas Jefferson High School in Alexandria.

The Fairfax event was funded with \$2,000 in seed money from NCWIT and Microsoft, with additional support and gifts for the winners provided by Genworth Financial, Google Inc., IBM, and Northrop Grumman Corp. Winners received prizes from multiple companies, as well as gift cards from Amazon and Best Buy. Each winner received two trophies: one for the winner and one to be displayed at her high school. At the Aspirations in Computing ceremony, the honorees heard from Dr. Jan Cuny, program manager at the National Science Foundation.

The Award for Aspirations in Computing honors young women at the high-school level for their computing-related achievements and interests. Awardees are selected for their computing and information technology aptitude, leadership ability, academic history, and plans for post-secondary education.

On the national level, the Award for Aspirations in Computing is part of NCWIT's talent development program that encourages young women to succeed in a field where they are underrepresented. It provides young women with visibility, community, leadership opportunities, support, research experiences, scholarships, and internships. "Two national winners this year are from Virginia and each plans to attend Virginia Tech in fall 2013," said Bradford. They are Allison Collier of Massaponax High School in Fredericksburg and Kara Vaillancourt of Loudon Valley High School in Hamilton. Other NCWIT award winners attending Virginia Tech include previous national winner, Elena Nadolinski, who is a rising junior CS major, a regional winner from Texas, Rachel Kohler, a rising sophomore, and two regional winners are entering Virginia Tech as freshmen this fall: New York regional winner, Svetlana Marhefka, and VA regional winner, Zoya Mahajan. "We are thrilled to have these young women join our department," remarked Bradford.

"Winners of the Virginia/Washington, D.C. regional Award for Aspirations in Computing are offered a \$1,000 renewable scholarship if they choose to major in computer science at Virginia Tech," said Ryder. Virginia Tech is the only university in Virginia to offer this type of scholarship.

CS@VT Celebrates Faculty, Staff, and Student Achievements at Spring Banquet



On Friday, April 26, a Spring Awards Banquet was held to recognize faculty, staff, and student achievements from the 2012/2013 academic year. In addition to faculty, staff, and student award winners, Dr. Jack Lesko, Associate Dean for Research and Graduate Studies in the College of Engineering, Don Sanderson with Eastman, Marko Cruz from Accenture and Greg Haught from Lockheed Martin attended the event. The Spring Awards Banquet was the culmination of two days of student research presentations.

Pictured left is John McElmurray, winner of Outstanding CS Scholar Award, and Dr. Manuel Perez, Associate Department Head for Graduate Studies.

Pictures from the event: <http://bit.ly/12gbMbx>.

Graduate Student Awards

Hussain Almohri - Finalist, Paul E. Torgersen Graduate Student Research Excellence Award
 Cory Bart - 2nd place, SIGCSE Graduate Student Research Competition at SIGCSE '13
 Zalia Shams - 2nd place, Grace Hopper Graduate Student Research Poster Competition
 Bireswar Laha - IBM Fellowship
 Min Li - IBM Fellowship
 Chun-Li Su - Lawrence Scholar (Lawrence Livermore National Lab)
 Shvetha Soundararajan - Outstanding GTA Award
 Hari Pyla - Outstanding GTA Award
 Paul Sathre - Outstanding Masters Student
 Alex Endert - Outstanding Doctoral Student
 Kevin Buffardi - University Graduate Teaching Assistant Excellence Award

Undergraduate Student Awards

Michael Naper - Outstanding Senior Award
 Michael Naper - Outstanding Undergrad Teaching Assistant
 John McElmurray - Senior Scholar Award
 Joshua Rush - Senior Scholar Award
 Avneet Singh - CS Service Award
 Adam Zarger - CS Service Award
 Adam Binford - Junior Scholar Award
 Brandon Amos - Sophomore Scholar Award
 Scott Pruett - Freshman Scholar Award
 Jared Pepin - Transfer Scholar Award
 Huanqing Liu - Selected for ACC Meeting of the Minds

CS@VT Celebrates Faculty, Staff, and Student Achievements at Spring Banquet

Faculty and Staff Awards



Dr. T.M. Murali and students Ahsanur Rahman, Chris Poirel and David Badger—Best Paper Award at ACM Conference on Bioinformatics, Computational Biology and Biomedicine

Dr. Danfeng Yao - Best Paper Award at the International Conference on Network Protocols

Dr. Aditya Prakash - Best Paper Award at the ACM International Conference on Information and Knowledge

Dr. Wenjing Lou and student Yao Zheng - Spotlight Paper Award for IEEE Transactions on Parallel & Distributed Systems

Dr. Heshan Lin, Dr. Wu Feng, Dr. Mark Gardner, et al - One of 20 best papers in 20-year History of the ACM (nternational Symposium on High-Performance Parallel & Distributed Computing

Dr. Wu Feng and student Balaji Subramaniam - Best Paper Award at ACM/SPEC International Conference on Performance Engineering

Dr. Adrian Sandu - Office of Vice President for Resesarch Scholar of the Week

Dr. Wu Feng - CIDER Teacher of the Week

Dr. Chris Barrett - Jubilee Professorship in Computer Science & Engineering, Chalmers University

Dr. Madhav Marathe - Institute of Electrical and Electronics Engineers (IEEE) Fellow

Ms. Jody Humphreys - Leadership Excellence Certificate (University Organizational & Professional Development)

Dr. Ali Butt - College of Engineering Faculty Fellow

Ms. Libby Bradford - College of Engineering Dean's Award for Outreach Excellence

Dr. Steve Edwards - CIDER Teacher of the Week, W.S. "Pete" White Chair for Innovation in Engineering Education, Virginia SCHEV Outstanding Faculty Award

VTURCS Undergraduate Research and Capstone Symposium

On Thursday, April 25, the Computer Science Department held its 11th VTURCS Spring Symposium. Virginia Tech Undergraduate Research in Computer Science (VTURCS) encourages Computer Science undergraduate students to become involved in research. This year's symposium featured 26 projects, including nine capstone projects from the CS 4284 Systems and Networking Capstone course.

The organizers of VTURCS wish to thank all of the judges, including faculty Dr. Barbara Ryder, Dr. Denis Gracanin, and Professor Dwight Barnette, and industry representatives Jay Carver and Ron Verbruggen (EMC), Christine Cantu (Fidelity), Dave Noller (IBM), Jacob Lloyd and Starr Green (Norfolk Southern), Chris Reidle (Cisco), Don Sanderson (Eastman), Greg Haught (Lockheed Martin), Marko Cruz (Accenture), and Erin Starnes (Qualcomm).

All participants received a bag of CSRC items to take home. The VTURCS organizers would like to thank Bloomberg, Cisco, DCS Corp, Deloitte, HyperGen, Intel, Qualcomm, and Vanguard for contributing items specifically for this event.

Awards were presented in four categories (advisor in parenthesis):

Faculty Choice Awards:

1. Carlo Del Mundo, "Toward a Performance-Portable FFT Library for Heterogenous Computing" (Dr. Wu Feng) *\$750 David Heilman Research Award*
2. Eeshan Shah, Ethan Holder, and Mohammed Davoodi, "CloudTwin" (Dr. Eli Tilevich) *\$500 David Heilman Research Award*
3. Adil Kadir, "Developing Android Game Applications that Promote Physical Activity in Adolescents" (Dr. Scott McCrickard) *\$250 David Heilman Research Award*

Industry Choice Awards:

1. Adil Kadir, "Developing Android Game Applications that Promote Physical Activity in Adolescents" (Dr. Scott McCrickard) *\$1500 Marston Award for Entrepreneurship*
2. Tam Ayers, CJ Gonzales, Zachary Lytle, James Miller, Stephen Turcol, and Matthew Wilt, "Team UI Design: Instant 3D Capture at a Fraction of the Cost" (Dr. Eli Tilevich) *\$1000 Marston Award for Entrepreneurship*
3. Divit Singh and Sanchit Chadha, "Collaborative Bus Tracker: Improving the Accuracy of Transportation Prediction Applications via Social Networking" (Dr. Eli Tilevich) *\$500 Marston Award for Entrepreneurship*

People's Choice Awards:

1. Sean Case, Christina Lidwin, Sara Mehfood, Sean Rice, Avneet Singh, Glen Tona, and Roger Yamada "Website Redesign of Virginia Tech's Division of Undergraduate Education" (Dr. Daniel Wubah, Dr. Cal Ribbens, and Ms. Alison Matthiessen) *\$500 CSRC Prize*
2. Eeshan Shah, Ethan Holder, and Mohammed Davoodi, "CloudTwin" (Dr. Eli Tilevich) *\$250 CSRC Prize*
3. Adil Kadir, "Developing Android Game Applications that Promote Physical Activity in Adolescents" (Dr. Scott McCrickard) *\$100 CSRC Prize*

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Capstone Awards:

1. Adam Binford and Joshua Martin, "The Completely Fair Scheduler in Pintos" (Dr. Godmar Back) *\$500 CSRC Prize*
2. Eeshan Shah, Karthik Kumar, Julian Adams, Tony Majestro, and Mark Nachazel, "OCR Extraordinaire" (Dr. Ali Butt) *\$250 CSRC Prize*
3. Alex Tran, Mohammed Davoodi, and Roger Yamada, "The Practicality of Lottery Scheduling" (Dr. Godmar Back) *\$100 CSRC Prize*

Pictures from the event: <http://bit.ly/19CfMZs>

Spring 2013 CSRC Career Fair



On Monday, February 18, the Computer Science Resources Consortium spring luncheon was held in Owens Banquet Hall at Virginia Tech, followed by the CSRC Spring Career Fair later that evening. At the luncheon, company representatives, faculty, and invited students heard presentations from undergraduate and graduate students working on a variety of research projects.

Later in the day, over 400 students attended the CSRC Spring Career Fair in the Commonwealth Ballroom of Squires Student Center. The CSRC Spring Career Fair, in its twenty-second year, gave CS majors an opportunity to visit with our corporate partners to discuss internship, co-operative education, and full-time positions. The CSRC is pleased to see the continuing growth of its program, with sixteen new members. The CSRC welcomed the following companies for Spring 2013: 1901 Group, Allegro Consultants, Capital One, General Motors, HyperGen, Nimble Storage, Norfolk Southern Corporation, Open Roads Consulting, PDRi, PointSource, Progeny Systems, RDA Corporation, Red Rock Government Services, ScienceLogic, Software AG USA, and TEDS. The CSRC also welcomed back the Central Intelligence Agency. It is encouraging to see the membership in the CSRC grow.

Pictures from the Spring 2013 Career Fair: <http://bit.ly/14rsBOM>.

Rising Junior Elena Nadolinski wins Microsoft Scholarship



Rising Junior Elena Nadolinski is the winner of a 2013-2014 Microsoft Scholarship. Recipients are chosen based on academic record and strong interest in making contributions to the software industry. The requirements of this scholarship include applying for the Microsoft internship program; Elena will spend summer 2013 at Microsoft. Nadolinski says that "it has been a great opportunity to receive this scholarship as it will allow me to focus on academics and allow me to explore research opportunities or pursue other interests. The scholarship is described as providing a leg up for undergraduates in computer science and it will certainly do just that. Overall I am very thankful to have received this scholarship."

CS@VT Celebrates Spring 2013 Commencement



On Saturday, May 18, the Virginia Tech College of Engineering conferred degrees on the class of 2013, including approximately 95 Computer Science undergraduate students. Graduate degrees were conferred at the Graduate Commencement on Friday, May 17. On Friday afternoon, Computer Science graduates, their guests and families, enjoyed a reception in Owens Banquet Hall. Several students were recognized for outstanding achievements and contributions, including John McElmurray, Joshua Rush, and Jared Pepin for undergraduate academic achievement, Avneet Singh and Adam Zarger for service to the department, and Michael Naper as the Outstanding Undergraduate TA and as the Outstanding CS Senior. Three graduate students were also recognized: Shveta Soundararajan and Hari Pyla for outstanding teaching, Paul Sathre as the outstanding Master's student and Alex Endert as the outstanding doctoral student. Thomas Walton was awarded the George Gorsline Memorial Scholarship Award, given each year to a rising senior who has made the most significant rebound from his freshman year.

Read more about the award winners at <http://bit.ly/13wmain>

Pictures from Commencement and the reception: <http://bit.ly/14TZxFx>

See May 18 commencement through the eyes of Google Glass



Recent CS graduate Tam Ayers tried out Google Glass at the College of Engineering's May 18 ceremonies. See commencement through the eyes of [Tam and Google Glass](#).

Tam and Google Glass were recently featured on the cover of the Roanoke Times. Read more about both at <http://bit.ly/18wf6Ao>.

Bireswar Laha receives IBM Fellowship Award



PhD student Bireswar Laha has received an IBM Fellowship Award. Dr. Barbara Ryder states "The IBM Fellowship is a highly selective award with a world-wide competition among graduate students." Laha joins fellow PhD student Min Li in receiving this prestigious fellowship. Li is now in the second year of her fellowship.

Read more about the [IBM Fellowship Award](#).

Laha was featured on the College of Engineering and VT News website.

CS grad student Kevin Buffardi receives 2013 GTA Excellence Award

CS PhD candidate Kevin Buffardi received the [Virginia Tech Graduate Teaching Excellence Award for 2013](#). With this award, he received a \$1000 cash prize from the Virginia Tech Alumni Association. "It is a great honor to have one of our graduate teaching assistants win an award from the Graduate School in a university-wide competition," said Ryder.



PhD student Austin Cory Bart places 2nd in graduate Student Research



PhD student Austin Cory Bart placed 2nd in the graduate Student Research Competition at [SIGCSE 2013](#). Cory's work was entitled "Wacky Writing: Enhancing the XO Laptop Platform to Motivate Creative Writing by Children." Bart's advisors on this project are Lori Pollock at the University of Delaware and Eli Telivich (VT). Bart describes his research: "Creative Writing is an important expression of creativity, and there currently exists no satisfactory Learning Software for the widely-distributed XO Laptop Platform to fill this niche. This study created two new Creative Writing Learning Activities for the XO Laptop and intervened in a classroom to test their effect on the Intrinsic

Motivation of children to write creatively using the XO laptop. The quantitative and qualitative results indicate that children were motivated to write using the software, leading the way to further improvements to the software for future benefit."

Huijuan Shao wins best student paper at AAAI-2013



PhD candidate Huijuan Shao and her co-authors Manish Marwah and Dr. Naren Ramakrishnan, professor of computer science, won the best student paper award in the Computational Sustainability Track at [AAAI-2013](#), a top-tier venue in Artificial Intelligence. This recognition is sponsored by the [Computing Community Consortium \(CCC\)](#) of the [Computing Research Association \(CRA\)](#). The paper was entitled: "A Temporal Motif Mining Approach to Unsupervised Energy Disaggregation: Applications to Residential and Commercial Buildings."

Jessie Eaves receives UOPD Customer Service Certificate



On July 12, Jessie Eaves received a certificate for her completion of the University Organizational and Professional Development's (UOPD) Customer Service training. This certificate is a formal recognition of the training workshops that Jessie has successfully completed over the past several years. Congratulations to Jessie.

Libby Bradford receives Dean's Award for Outreach Excellence



Libby G. Bradford, Director of External Relations and Undergraduate Studies, received a Dean's Award for Outreach Excellence at the Dean's Awards for Excellence Ceremony at The Inn at Virginia Tech on April 2, 2013. Dean Richard Benson made the following remarks about Ms. Bradford's achievements.

"Ms. Bradford is the full time director of the Computer Science Resources Consortium, an industrial partners program for the department that now has more than 80 members. These companies provide internships and job opportunities for CS students. The companies also provide funding for numerous CS student groups such as the Association of Women in Computing, CS Community Service, a gaming club, and a mobile computing club. Ms. Bradford also established the CS@VT Investment in Excellence Scholarship fund, in part, from these industrial funds. Under her direction, this endowment has grown to almost \$250,000. Ms. Bradford still advises the department's honors students, and supervises a new academic advisor."

"She has proactively organized information sessions for high school students and their parents who visit Virginia Tech. Recently, through industrial grant support she helped to attain, she has organized visits to Virginia high schools by the student Ambassadors of the department. She has visited approximately three high schools per academic year since this program started in 2009 and has reached out to more than 425 high school students."

Ali Butt named College of Engineering Faculty Fellow



Associate Professor Ali Butt was named a College of Engineering Faculty Fellow at the Dean's Awards for Excellence ceremony held at The Inn at Virginia Tech on April 2, 2013. Dean Richard Benson made the following remarks about Dr. Butt's achievements: "Dr. Butt is broadly interested in efficient distributed computer systems for high performance computing. Recently, the National Academy of Engineering invited him to organize a session on cloud computing at its U.S. Frontiers of Engineering Symposium. The NAE also invited him to participate in the U.S. – Japan Frontiers of Engineering Symposium in 2012. An NSF CAREER award recipient, Dr. Butt has established the Distributed Systems and Storage Laboratory. To insure his solutions are deployable in real-world practice, he has

collaborations with government facilities such as Oak Ridge National Laboratory and with industrial labs such as IBM. His work on developing a simulator for the widely used MapReduce program won a Best Paper Award in 2009 that has led to follow-on publications in 2012. IT practitioners are testing this simulator for designing emerging cloud-computing environments.

"His work on designing a tiered cluster-level distributed cache for handling massive datasets is a pioneering contribution that provides integrated storage management for HPC centers. According to Google Scholar, his publications have been referenced many hundreds of times, further confirming the impact of his research. He is currently advising 8 Ph.D. students, one master's candidate, and four undergraduate scholars. Overall, he has advised 21 students."

Steve Edwards' CS 1 course named 1 of "10 Technology Courses We Wish We Took in College"



Steve Edwards' CS 1 course, CS 1114 Intro to Software Design, was recently named as one of 10 top technology courses "We Wish We Took in College." You can read the [article at TechSchool.com](#).

Edwards also received one of the State Council for Higher Education in Virginia (SCHEV) awards for Virginia Outstanding Faculty on February 12, 2013. This award is the "highest honor for Virginia Faculty." [Read more](#) about this achievement.

Faculty Promoted to Full Professor



Cal Ribbens

At its June 3, 2013 meeting, the Virginia Tech Board of Visitors approved many promotions, tenure, and continued appointments. Congratulations to Dr. Cal Ribbens, Associate Head for Undergraduate Studies, and Dr. Wu Feng, Elizabeth and James E. Turner Faculty Fellow, who were promoted to full professor.



Wu Feng

Wu Feng and PhD student Balaji Subramaniam win Best Paper Award at ACM/SPEC/ICPE



Associate professor of computer science Wu Feng and PhD student Balaji Subramaniam won a best paper award at the ACM/SPEC/ICPE conference (Association of Computing Machinery/Standard Performance Evaluation Corporation/International Conference on Performance Engineering). Their paper was titled "Towards Energy-Proportional Computing for Enterprise-Class Server Workload." Of the three best papers awarded, this was the only one with a student author. Read more about this conference at <http://bit.ly/18E2x64>.

Emergency preparedness iOS app VTGemini created by CS@VT team



Professor Osman Balci (director of the Mobile Software Engineering Lab), graduate student Kyle Schutt, and Carl Harris (alumnus and chief technology architect for Communication Network Services) worked with the Office of Emergency Management and the Virginia Tech Police Department to create VTGemini, an emergency preparedness iOS app.

VTGemini is a free app and can be downloaded from iTunes.

Read more about VTGemini at <http://bit.ly/17vbYa1>.

Denis Gracanin part of interdisciplinary team working with the VT Center for Autism Research



Associate professor Denis Gracanin is a 2013 Summer Scholar-in-Residence studying "Neuroeconomics of Social Decision Making in Autism Spectrum Disorders." Gracanin, along with John Richey, assistant professor of psychology in the College of Science, Angela Scarpa, associate professor of psychology in the College of Science, Ken Kishida, research scientist at the Virginia Tech Carilion Research Institute, and Andrew Valdespino, doctoral student in psychology, will be working together throughout the summer. Read more about [this project and the summer scholars program](#).

Wenjing Lou, Tom Hou, Hui Li, and CS graduate students win Best Paper Award at ASIACCS



Co-directors of the Complex Networks and Security Research Lab, Drs. Wenjing Lou, associate professor of computer science, and Tom Hou, professor of electrical and computer engineering, along with Hui Li (Xidian University, China) and CS graduate students Wenjai Sun, Bing Wang, Ning Cao, and Ming Li received a best paper award for "Privacy-Preserving Multi-keyword Text Search in the Cloud Supporting Similarity-based Ranking." This paper was one of only 2 papers selected as best in conference.

Read more about the [Complex Networks and Security Research Lab](#) and [ASIACCS](#).

Doug Bowman Co-Leads DARPA Robotics Challenge team, Honored by Georgia Tech

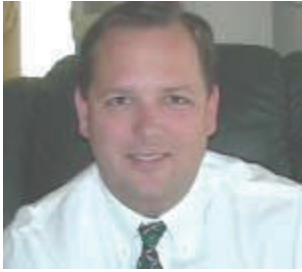


Doug Bowman, professor of computer science and director of the Center for Human-Computer Interactions, is co-leading a team that has advanced to the second phase of the futuristic Robotics Challenge sponsored by the Defense Advanced Research Projects Agency (DARPA), a subsidiary of the U.S. Department of Defense dedicated to high-tech research. Team ViGIR (Virginia-Germany Interdisciplinary Robotics) is a collaboration between students and faculty in CS@VT, local company TORC Robotics, and Technische Universität (Darmstadt, Germany). "The goal is to design tools, algorithms, and processes that could be used to allow a humanoid robot and human operators to work together to respond to a real-world disaster...quickly and effectively, without requiring the robot to be fully autonomous. A carefully designed user interface for the human operator is critical to achieving that goal," said Bowman

Bowman was also awarded a Georgia Tech Graphics, Visualization, and Usability Center's (GVU) Impact Award for "research leadership in the field of Human-Computer Interaction." Bowman's contributions to 3D user interfaces and "more engaging virtual and augmented reality systems" are cited as examples of the impact of this research. Bowman received both his MS and PhD degrees from Georgia Tech.

Read more about both of these achievements at <http://bit.ly/1eV6kgK>.

Kirk Cameron wins Rising Star Award from Roanoke-Blacksburg Technology Council



On May 16, 2013, professor Kirk Cameron won the Rising Star Award from the Roanoke-Blacksburg Technology Council (RBTC). The award was presented during the RBTC's TechNite. Read more about [the TechNite event](#) and the [RBTC](#).

College of Engineering names Mary Miller its 2013 Distinguished Alumna



BLACKSBURG, Va., May 17, 2013 – Mary Miller, founder and president of Interactive Design and Development, of Blacksburg, Va., is the Virginia Tech College of Engineering Distinguished Alumna for 2013. She earned her master's degree in 1985 in computer science, part of the [College of Engineering](#).

"The college has some 60,000 living alumni, providing us with a host of very qualified and prestigious alumni who give back to their alma mater. In Dr. Miller's case, she has served as a member of both the College of Engineering and the Depart-

ment of Computer Science [Advisory Boards](#). She has volunteered her time as a guest speaker on numerous occasions, speaking at our Engineers' Week luncheon, our Student Leadership luncheon, and to Paul Torgersen's classes on the Theory of Organization. She is a member of our Committee of 100 and one of 119 elected members to our [Academy of Engineering Excellence](#)," said [Richard C. Benson](#), dean of the college, in making the announcement.

Miller has served both democratic and republican governors of Virginia. She has assisted in Virginia's efforts to strategize and implement the use of technology across the state's agencies and institutions of higher learning, and remains a member of Virginia's Information Technology Investment Board. A founder of this board, she has served as a former chair of its evaluation and governance committee.

Miller was the first woman to serve as the president of the Blacksburg Rotary Club, and she is past president of the NewVa Corridor Technology Council.

Miller's association with Virginia Tech started as a student in 1968 when women represented less than a tenth of the student population. She sought her bachelor's degree in elementary education because she knew women could get teaching jobs. Certified to teach kindergarten through 12th grade, she landed her first full-time position as a sixth and seventh grade teacher in Pulaski County, Va. She

took a sabbatical after three years to have her two children, Matthew and Mandy.

In 1979, she returned to work, teaching math through the Marion, Va., Job Corp., and decided to take a programming class at Wytheville Community College. She arrived at the fully enrolled class with an attitude.

"I planned to force add (the course) even though the professor, Bill Durham, a retired NASA programmer, said no one could be added. I stayed after class, and told him, 'he wanted me in his class, and that I would be his best student, and I would even help the others.'"

Her tenacity worked, and she credited him with inspiring her to return to Virginia Tech to study computer science. It was the mid-1980s, and two faculty from each department were required to take J.A.N. Lee's computer science course. Since Miller became Lee's teaching assistant, she taught several of these classes, opening the door to four internal job offers when she received her master's degree in 1985.

Fortuitously, she selected the one from the then Dean of Virginia Cooperative Extension Mitch Giesler. "It was a life-changing job. I had one year of a guaranteed salary, and then I needed to fund myself with grant money. Interactive video was just taking off," she said, and she entrenched herself in the new arena.

Her job was to investigate new and exciting ways to deliver information to Virginians. Her assignment was to investigate the power of interactive video technology and to write grants. In 1986 at an Extension training conference, she was showing what a voice-activated computer could do.

Later she and Giesler arranged to present her innovative work on a public-access information system at a private meeting with the Kellogg Foundation. The presentation netted another \$1.3 million grant, and Virginia Tech's Interactive Design and Development Lab was created. The lab soon attracted some significant projects such as a grant to produce a CD-ROM of agricultural information for the National Agricultural Library. The groundbreaking disk, the first CD-ROM produced by Virginia Tech, contained some 50,000 pages with more than 30,000 images.

A major downturn in the national economy in 1991 prompted the university to suggest the privatization of the lab. Miller agreed. Today, the lab's clients include such organizations as the American Federation of Teachers, members of the health care industry, and Fortune 500 companies such as Hewlett-Packard and Citibank.

And in the middle of founding the new company, she enrolled part time in a doctoral program in curriculum and instruction at Virginia Tech, earning her Ph.D. in 1996 after three years. Simultaneously, the company was recognized as one of the Top 100 Multimedia Developers in the U.S.

She was chosen as an Outstanding Woman Alumna at the 75th Anniversary of Women at Virginia Tech in 1996.

Article by Lynn Nystrom

How you can help CS@VT!

The generosity of alumni, parents and friends of CS@VT allows us to fund many special activities in the department. The budget cuts over the past 6 years have resulted in the department not having sufficient funds to flourish and grow to world-class stature, a goal we aim to achieve.

In the past, we have concentrated on building a departmental scholarship fund, the Investment in Excellence Scholarship fund first endowed in 2007. Today, through the tireless stewardship of Ms. Libby Bradford, Director of External Relations for CS@VT, this fund generates about \$15,000 annually for scholarships. We also have special named scholarships, including the George Gorsline Scholarship, the Anne & George Gorsline Scholarship, the Griffith-Strader Christian Scholarship and the CGI Scholarship (see www.cs.vt.edu/undergraduate/scholarships for more details). We would welcome your contributions in support for any of these fine scholarship funds. Please see our [scholarship donation page](#) for more information.

However, in order to achieve our goal of ranking among the top 10% of CS departments in the US, we need additional funds to attract outstanding graduate students (e.g., fellowships), to retain outstanding faculty members active in cutting edge research, to maintain state-of-the-art research facilities and to encourage exploration of high risk, high payoff research ideas. We need to start an endowment for CS@VT that will support these goals, and eventually grow into support for endowed faculty fellowships and named chairs.

With your help, together we will accomplish these goals. We are embarking on a fundraising campaign to establish an endowment for our department. Of course, we welcome your financial support at any level. Nevertheless, we urge you to consider a 5-year pledge of a gift at the \$300, \$600, or \$1200 level annually. Such gifts will be acknowledged publicly on our *CS@VT Benefactors* wall in McBryde 106.

How to make a pledge

To make a pledge, please go to www.cs.vt.edu/donations and look for "How to Give to Computer Science" at the bottom of the page. To ensure the department receives your gift, please follow these instructions:

We ask you to specify the Department of Computer Science as the recipient of your gift. To ensure this happens when you use the online gift form, in the section entitled "Gift Information" please select "Other Designation" and type "Departmental Programs - 875766."

You can securely make a pledge, make a payment on an existing pledge, make a gift using your credit card, or request information on donating securities, making a planned gift or using electronic funds transfer from your checking account, via the [online pledge form](#).

Many employers will match donations from employees. To see if your employer will match your donation, please see the [Matching Gifts](#) page.

When you make a donation, please send e-mail to donations@cs.vt.edu to notify us of your gift. We would like to promptly acknowledge your gift!

To make sure the CS Department has your current information, please click [here](#). If you know of other CS@VT alumni who are not getting our newsletter, please share the link with them.