On a Monday afternoon in March, a quiet group of eight students gathers in the faculty lounge in the computer science building. They are preparing for the labs they will teach this week. This is a meeting for the teaching assistants of course CSCI 1113 C/C++ taught by Chuck Swanson. Swanson conducts the meeting, handing out the week’s assignment, running through the list of tasks and items, requesting feedback as he goes, quizzing the group on the material. While Swanson will present the lecture, the students will be in charge of the one-to-one questions with the students of 1113 during lab time.

It’s not unusual to see students as TAs for a class like 1113, which has nearly 300 students. These students, however, are not the typical graduate student TAs, they are undergraduates. Courses like 1113 presents major logistical challenges for the department. This one course alone requires a computer lab in the building to be staffed by TAs nearly eight hours a day, from Monday to Friday to serve students of 1113. That’s where the undergraduate TAs can help. A staff of 12 students take shifts of around two hours each throughout the week, to provide support for the 1113 students, and ease the load on other TAs.

Senior Hannah Jaber is one of the undergraduate TAs for CSCI 1113. It was the 1113 course that changed her major from Mechanical Engineering to Computer Science. “Initially, I was scared to death of doing it (1113). Then I found out more about it from friends and took the course myself.” She found that liked the “level of abstraction, that it’s clean, neat and predictable.”

Unlike many computer science students, Hannah had no background in programming. There were no such courses offered at her high school. “It wasn’t
It's been an exciting year, full of events and achievements in the department. We started off this past fall with our Seventh Open House and Tech Forum. The 2009 half-day program featured a keynote from Jamie Thingelstad, an entrepreneur and former CTO and Vice President for the Wall Street Journal Digital Network. We were also pleased to present awards to two of our distinguished alumni, Bonnie Holub and Ajay Pandey. Once again, researchers in our department and in industry put their projects on display with dozens of exhibits lining the second and third floors of our building. It was an incredible day and for those of our alumni and friends who couldn’t make it, you can see photos in this issue. We are already beginning planning on our next Open House and we hope to see you there in October 2011.

The department is proud to debut our first Computer Science and Engineering Department Report. We have spent many hours cataloging the details of our accomplishments over the previous two and a half years, including awards and honors for faculty, alumni and students. We have included detailed profiles of our faculty and research areas. The booklet is widely available, with a digital copy on our website at www.cs.umn.edu. You may also contact the department to have a copy sent to you.

Among the items included in our Department Report is a comprehensive list of our major grants. Here in Computer Science and Engineering we have been making good use of government surplus funding. Over the last two years we have watched our research funding grow from $7.6 million to nearly $22 million in 2009 from federal, state and industry sources. While this incredible surge in funding speaks to the quality of research being conducted by our faculty, it is also an indication of the unavoidable need to search for new and different forms of revenue for the department at an economically hard time.

The University of Minnesota is expecting a $36 million cut to the budget, coming on the heels of an $80 million cut last year, and erasing 10 years of incremental state funding increases. The college and department have been looking at further cuts to funding as a result of the Governor’s expected unallotment. Our increased revenue from research funding will help weather some of these cuts. It also sustains the momentum of excellence that we have gained over the past ten years, lending more prestige to the department.

As always, we thank our alumni and friends for their support of computer science and the University. When you give to the department you are funding research facilities that are needed to keep Minnesota at the forefront of science and engineering. You provide opportunities for researchers, and make an investment in the foundations for innovative technologies that drive future economic growth.

As you will see in this issue, we continue to receive awards and accolades for our work, be it teaching or research. We continue to be proud of the work being done here and we know we can count on your support to maintain the level of excellence we have now.

— Vipin Kumar, CS&E Department Head and William Norris Professor
CSE or CS&E: The Institute of Technology changes its name

As of July 1, 2010 the Institute of Technology will be changing its name to the College of Science and Engineering (CSE). The acronym for Computer Science and Engineering will change to CS&E. The purpose of the change is to more clearly describe the unique combination of science and engineering disciplines to prospective students and faculty, business partners and research-granting agencies. The name change process has included input from alumni, students, faculty, staff, business leaders and other groups throughout the past year.

Local and national news

Associate Department Head Joe Konstan was quoted in an article for The Chronicle of Higher Education on faculty pay cuts.

Assistant Professor Dan Keefe was recently interviewed for a story in New Scientist Magazine on technology that aids artist’s creations. The story describes Keefe’s work with Drawing on Air, his 3D virtual environment which uses a device called the Phantom and a computer to “draw.”

Assistant Professor Abhishek Chandra’s research was featured in a recent article in Forbes magazine. The article describes research in the sorts of deep theoretical questions about virtualization that commercial companies overlook.

The work of Assistant Professor Chad Myers and his team at the University of Toronto were featured in Science. Their work applying their synthetic genetic array methodology in a large-scale genetic interaction map for the budding yeast Saccharomyces cerevisiae, shows functional interactions at the genetic level. From this map researchers can learn what genes do and potentially understand how genotype translates to phenotype.

Professor Maria Gini and Associate Professor Vicki Interrante are featured in an exhibit at the Minnesota History Center. “Inventive Women: Portraits of Scientists and Engineers from the University of Minnesota” highlights women faculty who are engaged in a wide range of research at the Institute of Technology. The exhibit runs until July 4, 2010.

Department Head Vipin Kumar has received a $3.2 Million grant from the Planetary Skin Institute to develop data mining tools to track historical changes in the Earth’s forest ecosystems and determine their relationship to climate change. The University of Minnesota is one of the first academic partners to join the Planetary Skin Institute whose goal is to research, develop and prototype a near-to-real-time global monitoring of environmental conditions and changes to develop the required decision support capabilities to manage global resources, risks and enable the necessary environmental markets. The Planetary Skin platform has been selected by the TIME Magazine as one of “The 50 Best Inventions of 2009”. Software and events produced by Kumar’s team will be a key part of the first prototype of the Planetary Skin to be released in 2010.

Assistant Professor Rui Kuang is part of consortium lead by the University of Minnesota Institute for Health Informatics that has been awarded more than $5 million to train health professionals in the vitally important field of health informatics. Faculty members will contribute to the effort through curricular development, course delivery, student recruitment, and program development and evaluation.

CS&E happenings

The department recently hosted two luncheons in April for CS&E alumni. The Lunch and Learn program invites alumni back to campus to learn about some of the innovative research going on in computing today. Jon Weissman presented an overview of the emerging area of cloud systems and his specific research in the area. Jaideep Srivastava

(Department news continued on page 4)
spoke about his research study showing that online, interactive gaming communities are now so massive that they mirror traditional communities.

The University of Minnesota’s Software Engineering Center hosted the 5th annual CodeFreeze conference at the McNamara Alumni Center last January. Code Freeze 2010 focused on the overlap and overlay of design and development. In particular, the conference sessions discussed ways to incorporate design thinking and practices into the delivery vehicles provided by agile methods. The conference combined talks, workshops, and a panel session where the speakers fielded audience questions.

CS&E alumni in the Bay Area reunited at the Computer History Museum last August for our Third Annual Alumni Event with speaker Gary Glover. The department also hosted the first Seattle Alumni Event in October.

The Department hosted more industry events. Twin Cities SharePoint Saturday is an educational, informative & lively day filled with sessions from respected SharePoint professionals & MVPs, covering a wide variety of topics focused on Microsoft SharePoint technologies. Twin Cities CodeCamp 8 had more than 250 attendees, one of the highest turnouts ever. TCCC9 is being scheduled for October 2010.

Faculty speaking engagements

John Riedl gave a keynote at the Midwest Instruction and Computing Symposium in Eau Claire, WI. Shashi Shekhar gave keynotes at the Environmental Systems Research Institute GIS Week, in Redlands, CA, and the Schloss Dagstuhl, Leibniz-Zentrum für Informatik, in Warden, Germany. Vipin Kumar gave keynotes at the SIAM International Conference on Data Mining, in Columbus, Ohio, and the IEEE International Conference on Data Mining (ICDM). Jaideep Srivastava will gave a plenary talk at The 3rd International Conference on Human-centric Computing (HumanCom 2010) this August in Cebu, Philippines.

New Staff

Laura Connor recently joined the CS&E department accounting group. Laura handles purchasing in the department. She came from the Department of Medicine. When she isn’t at the office Laura takes classes at the university, works on various art projects, watches bad movies, plays weird card games, and reads anything she can get her hands on.

CS&E Hosts MinneWIC

Associate Department Head Maria Gini organized MinneWIC 2010, a regional meeting of women in computing, that was held on February 12-13, 2010 in the EE/CS Building. MinneWIC, the first upper Midwest celebration of Women in Computing, brought together high-school and college students, high-school teachers, faculty, and professionals interested in computing to share experiences and strategies for success, to inspire students, and to discuss the role of women in the computing field. The conference included programming and poster contests, keynote, talks and panelist discussions.
Welcome to our new UMSEC Program Director
Mike Whalen

Dr. Michael Whalen joined CS&E in January serving as the Program Director of the University of Minnesota Software Engineering Center. Mike is a graduate of the department; he received his Ph.D. in 2005. His Ph.D. dissertation involved using higher-order abstract syntax as a basis for a provably-correct code generation tool from the RSML-e specification language into a subset of C.

Prior to joining CS&E Mike was a Senior Software Engineer at Rockwell Collins. While there he collaborated with the University of Minnesota and NASA on a project building technology to allow engineers to easily verify software written using a tool called Simulink. He was also the lead developer of the Rockwell-Collins Gryphon tool suite, which can be used for compilation, test-case generation, and formal analysis of Simulink/Stateflow models. This tool suite has been used both for academic research and industrial verification projects. Mike frequently speaks and writes about the use of formal methods with multiple invited presentations and publications.

His interests include novel uses of model checking, test generation, theorem proving, and random search simulation tools to reduce the cost and manual effort required for systems and software validation for critical systems.

In memoriam:

In 2009 the Department of Computer Science and Engineering lost one of its founders and a pioneer in the field of large-scale numerical optimization. Professor Emeritus J. Ben Rosen passed away at his residence in San Diego. He was 86.

Rosen was recruited to head the newly-formed Department of Computer Science, arriving in 1971, the second year of the department’s existence. At the time, his achievements were already substantial, including work on the Manhattan Project and founding and chairing the computer science department at the University of Wisconsin. He served as department head at Minnesota through 1981, and continued to be an active scholar through his retirement in 1992 and well beyond. As recently as 2007, Rosen was still actively conducting research, publishing articles, and mentoring younger scholars.

Rosen was known for his work in optimization methods which are fundamental in many problems in engineering, biology, economics, and other sciences. He developed many fundamental techniques in areas such as modeling the 3-dimensional structure of protein molecules, eliminating noise from data signals, and the general solutions of nonlinear dynamical systems arising in bioengineering problems.

We appreciate his contributions to our department and the field; he is greatly missed.

Publications
You may have missed our Fall edition of Soundbyte. We have been busy working on our new Computer Science and Engineering Department Report. Copies of the report are now available on our website www.cs.umn.edu.

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Awards

Faculty Achievements

Konstan chosen to receive Teaching Award

Associate Department Head Joe Konstan was recently chosen as a recipient of the Award for Outstanding Contributions to Postbaccalaureate, Graduate, and Professional Education.

Konstan was chosen for his excellence in instruction; involvement in students’ research, scholarship, and professional development; development of instructional programs; and advising and mentoring of students. He was recognized at a ceremony in April. Konstan will also be inducted into the Academy of Distinguished Teachers.

The University of Minnesota awarded I. Volkan Isler the McKnight Land-Grant Professorship, a two-year appointment that includes a research grant for each year. The award was bestowed in March and begins on July 1, 2010. Isler’s research interests are in the emerging and highly promising area of robotic sensor networks.

Professor John Riedl was recently named Fellow of the ACM for his contributions to recommender systems and to social and collaborative computing. The ACM Fellows Program recognizes ACM members who have contributed substantially to the mission of the ACM.

Associate Professor Loren Terveen has been selected as an ACM Distinguished Scientist. The Distinguished Grade recognizes those ACM members who have achieved significant accomplishments or have made a significant impact on the computing field. Terveen is one of 58 Distinguished Scientists selected for 2009.

Professor Youssef Saad was selected for the 2010 Class of Fellows of the Society for Industrial and Applied Mathematics (SIAM). Professor Saad was recognized for his contributions in numerical linear algebra and its applications.

Best Paper Awards

CSE Professor John Riedl and his student, Michael D. Ekstrand, received a best paper award for their work “rv you’re dumb: Identifying Discarded Work in Wiki Article History” at WikiSym 2009. Forty-five papers were submitted, of which 16 were accepted (36%), and one named Best Paper.

Jon Weissman and his colleagues received a best paper award at the 10th IEEE/ACM International Conference on Grid Computing (Grid 2009), for their paper “Critical Perspectives on Large-Scale Distributed Applications and Production Grids.” The acceptance rate for the conference was 24%.

Abhishek Chandra and his student Dave Bouchter received a best paper award for their paper “Does Virtualization Make Disk Scheduling Pass?” at HotStorage’09: SOSP Workshop on Hot Topics in Storage and File Systems. The paper was one of three best papers at the workshop, for which the acceptance rate was 21%.

Graduate students Katherine Panciera and Reid Priedhorsky, along with Associate Professor Loren Terveen and IBM researcher Thomas Erickson received an Honorable Mention Best Paper Award for their paper “Lurking? Cyclopaths? A Quantitative Lifecycle Analysis of User Behavior in a Geowiki.”

Stergios Roumeliotis and his students Anastasios Mourikis and Nikolas Trawny were winners of the King-Sun Fu Best Paper Award of the IEEE Transactions on Robotics for their article “Vision-Aided Inertial Navigation for Spacecraft Entry, Descent, and Landing.”
Graduate student Dimitrije Jevremovic has been selected to receive an IBM Ph.D. Fellowship. The award includes a $20,000 stipend for the academic year as well as a $10,000 education allowance. The fellowship also includes an internship with IBM. Dimitrije’s advisor is Professor Dan Boley. IBM Academy of Technology Visiting Member Carlos Sosa will act as Dimitrije’s mentor for the award.

Vijay K. Adhikar won the Best Paper Award at the highly selective USENIX/ACM conference on Networked Systems Design and Implementation (NSDI’10) for a paper “Reverse Traceroute.” He co-authored the paper with two colleagues from the University of Washington.

Graduate student Anand Singh received a Best Paper Award at the International Conference on Security of Information Networks (SINCONF) for his paper “Improving Risk Assessment Methodology: A Statistical Design of Experiments Approach.” His advisor is David Lilja.

Ph.D. student TaeHyun Hwang won the first prize for the 2009 the Korean Computer Scientists and Engineers Association in America (KOCSEA)/Moon Jung Chung scholarship/poster competition. The KOCSEA is a non-profit organization of Korean and Korean-American computer scientists and engineers in North America. Every year KOCSEA offers a scholarship to recognize an outstanding Korean or Korean-American student studying computer science or related areas in the U.S.

Graduate student Vassilios Christopoulos received the “American Legion Brain Sciences Award.” The award was created by the American Legion family’s Brain Science Foundation and includes an honorarium of $1000.

Ph.D. student Joel A. Hesch was selected to participate in the 2009 NASA Planetary Sciences Summer School. Hesch spent an intensive week at the Jet Propulsion Laboratory (JPL) in Pasadena, CA developing an early-mission concept study for a New Frontiers class robotic space mission.

Graduate student Eugene Vasserman was selected as one of five Google Lime scholars. Google Lime Scholars are recognized for their tremendous achievements in the field of computer science. Vasserman received a $10,000 academic scholarship and was invited to the Google headquarters in California.

Graduate student Jie Chen was one of 3 winners chosen for the 2009 SIAM Student Paper Prize for his paper “On the Tensor SVD and the Optimal Low Rank Orthogonal Approximation of Tensors.”

Graduate student Rohit Gupta was selected to present his work on “Colorectal cancer despite colonoscopy” in the clinical science plenary session in DDW 2009, an international conference on gastroenterology recently held in Chicago and attended by more than 15,000 GI professionals. Out of 4,475 submissions, Gupta’s work was among only 4 selected for presentation at the clinical science plenary session.

2010-2011 CSE Scholarship Awards

CH Robinson:
Andrew Schultz

Lando Scholarship:
Della Polla Alexander
Daniel Balm
Nathan Fox
Evan Gilbert
Nicholas Malbraaten
Daniel Moy
Christopher Thompson
KatieAnna Wolf

Thomson Reuters Scholarship:
Dhruv Goel
Jonathan Hsiao

Thomson West Scholarship:
Jim Avery

Travel Awards
Andrew Schultz - England
KatieAnna Wolf - Italy
On a rainy May 7, 2010, CS&E celebrated the commencement ceremonies of the Institute of Technology and the Graduate School at the University of Minnesota’s Northrop Memorial Auditorium.

The Department also held a reception in the EE/CS building for graduates and their families in the afternoon.

Above: some of the CSE graduate students who attended Spring 2010 graduate school commencement.

Above: Assistant Professor Chad Myers with graduate student Rasik Phalak at the commencement reception. Below: Students and family members relax after commencement.

Above: Georganne Tolaas with Ph.D. students from front left: Jinoh Kim, Jie Chen, Chi Yin Chow, Hun Jeong Kang, Steven Wu, Tae Hyun Hwang, Rohit Gupta, Nick Trawney, Gurav Pandey, Nate Bird.
CS&E Department Head Vipin Kumar with his student Rohit Gupta and his wife.

Associate Department Heads Maria Gini and Joe Konstan at the CSE commencement reception with undergraduate student Sarah Relander.
CS&E welcomed alumni, students, and industry to the 7th biennial Open House and Tech Forum last October. The successful event had nearly 300 guests and more than 65 exhibits from student, faculty and industry research projects.

The Department started the half-day event with a welcome from Dean Crouch. The 2009 Department of Computer Science Distinguished Alumni Award was presented to Bonnie Holub of Adventium Labs for her excellent contributions to the field and for her volunteer efforts. Alumnus Ajay Pandey was recognized with the Outstanding Leadership Award for Internationals.

Two floors of the EE/CSci building were dedicated to poster exhibits from CS&E faculty, students and industry partners such as Microsoft, IBM, CISCO, and 3M.

Jamie Thingelstad, entrepreneur and former CTO and Vice President for the Wall Street Journal Digital Network provided the keynote address “Inspired Software.” Thingelstad discussed how the continued growth in processing power, storage and bandwidth has given software developers an exploitive set of capabilities.

(Story continued on page 14)

Photos from top: Vipin Kumar with Ajay Pandey, Keynote speaker Jamie Thingelstad and a packed auditorium, DAA awardee Bonnie Holub (left), exhibitors and attendees learning about research.
Alumni

Bonnie Holub Accepts Department Alumni Award

Bonnie Holub (Ph.D. 1992) was awarded the DAA at the Computer Science & Engineering 2009 Open House and Tech Forum. Holub is a founder and CEO of Adventium Labs, a non-profit research and development lab, focusing on the development of advanced software applications for complex systems, with a particular emphasis on automated reasoning, human-system interaction, and supporting architectures. In just over six years of operation, this group has been awarded almost $14 million in research funding from a variety of government labs and industrial research organizations. Holub was a principal at Knowledge Partners of Minnesota, and was the founder and director of the Artificial Intelligence/High Performance and Parallel Computing Lab in the Graduate Programs in Software (GPS) at the University of St. Thomas in St. Paul, Minnesota.

Alumni achievements

**Ed Chi** (Ph.D. 1999) has been promoted to Principal Scientist at the Palo Alto Research Center for his widely recognized research impact in the HCI and social computing communities, his technical leadership for research and commercialization in information scent, the formation and development of a new PARC research area in Augmented Social Computing.

**Jeff Dean** (Ph.D. 1990) was recently named Fellow of the ACM for his contributions to the science and engineering of large-scale distributed computer systems. He is the 2007 recipient of the CSE Distinguished Alumni Award.

**Jon Herlocker** (Ph.D. 2000) was recently named CTO of Decho Corp.

**Tim Mikula** (Ph.D. 1994) has joined School Perceptions as its Vice President for New Product Development.

**Michael Rappa** (Ph.D. 1987) joined the Department of Computer Science at North Carolina State University. He is the founder and director of the Institute for Advanced Analytics at NC State, and led the development of NC State’s Master of Science in Analytics.

**Paul Wagner** (Ph.D. 2001) was promoted to full professor and appointed chair of the Department of Computer Science at the University of Wisconsin – Eau Claire in 2009. He also received a $400K NSF CCLI Phase 2 grant to develop a portable networked laptop instructional environment in July of 2008.

**Jieping Ye** (Ph.D. 2005) received the NSF CAREER Award, and the 2009 Researcher of the Year Award from the School of Computing and Informatics, Arizona State University.

In Memoriam

**Eitan Gurari** (Ph.D. 1978) Associate Professor at Ohio State University, passed away suddenly last June. Dr. Gurari started his career as a theoretician. He made fundamental contributions to automata and complexity theory. His textbook, *An Introduction to the Theory of Computation*, was highly praised and he published frequently in JACM, SIAM Computing, ACM STOC, and IEEE FOCS. After joining OSU, Gurari switched his research focus, starting to build software systems. His most recent software engineering research interests covered hypertext processing and Braille production.

**Heidi Kvinge** (MS, 1983), Software Engineering Manager at Intel, passed away May 12. Heidi was a major force behind the Grace Hopper Conference for 5 years and its international mission of promoting the role of women in technology. She was the Program Chair in 2008, and the General Chair in 2009. She was honored by the Anita Borg Institute at the 2010 Women of Vision Awards Banquet and will be honored at the next Grace Hopper Conference for her tireless work and spirit.
Alumni Spotlight: 

Chris O’Malley

As a kid, Chris O’Malley thought he was going to go to school to be a lawyer, majoring in political science. It was his school counselor told him he was too smart for that. The counselor told him that he should go into chemical engineering instead. Following that advice, O’Malley attended the best school affordable for his family, the University of Minnesota. It was while O’Malley was an undergraduate that he was exposed to computer science and convinced it should be his major.

As a student he had the opportunity to intern for Honeywell. O’Malley says that, “working there during the height of the cold war was exciting, we had the opportunity to see and work on these secret projects for the government,” as well as research collaborations with the University of Minnesota.

Though the work was interesting, O’Malley claims that he was always an odd duck in engineering, and it’s easy to see how his natural loquaciousness translates to work in sales. It was when he was at Honeywell that he became interested in selling their technology. O’Malley was interested in business while still in school and chose it for his minor. After graduating from the University of Minnesota, he began working in the sales division for Applied Data Research. O’Malley stayed with the

Alumni Spotlight: 

Brian Bailey

I could change what it could do, so I began programming my own games, like battleship and hangman.” He may not have realized it at the time, but he was gaining valuable programming skills like coding and managing data sets. Bailey was simply exploring something enjoyable, and he was interested in doing more.

Bailey was always interested in math and science, though they weren’t his only interests. He enjoyed the mental stimulation of math, but he didn’t set his path in computer science until he attended college at Purdue. A good student and a research assistant, he didn’t initially see a future for himself in academia. He was intimidated by the graduate students, “I thought that the grad students were brilliant and that the work would be too difficult for me. It never occurred to me to go to grad school myself.” When IBM in Rochester offered him a position there after his junior year internship, he accepted.

It was while Bailey was at IBM that he “eased into grad school” by completing courses through the University of Minnesota’s online program. Boosted by his performance in the online courses, Bailey eventually became a full-time, on-campus student. He immediately chose the field of Human Computer Interaction for his research. He says it was based on his desire to work in areas that affected the way people use computers.

“What I loved about Minnesota was that I was allowed to work and explore at my own pace.” That pace led him to a Ph.D. and a position at the University of Illinois Urbana-Champaign. “The department here really took a chance with me.” At Illinois, Bailey has continued his research in Human Computer Interaction and received tenure this last year.

After receiving tenure, Bailey took his sabbatical at Microsoft. While there he looked at creativity inside the organization, how they turned innovation into practice. Microsoft had recently done a large project and had data but no analysis. Bailey’s work with that data was recently nominated for a best paper award at a CHI conference.

Bailey has been back at Illinois since September and continuing his work examining the intersection of computing and creativity. He is investigating the design, implementation, and evaluation of interface representations, interaction techniques, and the tools that foster creativity. His work is in design domains, where his projects include developing interfaces that enable designers to work with multiple ideas in parallel, and knowledge management systems to promote design reuse.
Alumni Spotlight:

Xuan Liu

(Ph.D. 2000) didn’t know much about Minnesota when she moved here to pursue her Ph.D. She had received her masters degree from Xiamen University, in China, and had been teaching for a couple of years. While Liu enjoyed teaching and advising her students, the courses she taught were basic computer science courses, and she longed for a challenge.

Of Minnesota, Liu says, “I knew it was a big university with a good reputation. I’m from a warm part of China and it was only after I told people that I was going there that they said it was cold.” She quickly adjusted, saying, “it really didn’t bother me, there were buses and transportation that adjusted to the weather, and there are so many things you can do in all seasons. I only have really good memories of my time there.”

Since receiving her Ph.D. in 2000, Liu has been a research staff member at the IBM T.J. Watson Research Center where her research interests include Cloud computing, knowledge representation and management, spatial databases and data mining, geographic information systems, and mobile computing. Most recently she has been working on the Smarter Government Platform. The platform leverages the cloud computing technology to help city governments perform better. According to Liu, many government offices work on legacy applications that don’t talk to each other, which causes information silos - the information in the building department may not be linked to the assessments department, making it difficult to communicate and work efficiently.

She uses the example of applying for a parking permit. “When you go to the City to apply for your permit, they must check several things that may not be part of the permits department. They have to make sure you are a resident, they have to check that you have a valid drivers license, that you don’t have any outstanding tax debts. These may be in different offices, so it’s slow to check them one by one. Using the IBM platform, we can integrate the data so that cities can work more efficiently and be more productive.”

The Smarter Government platform leverages cloud technology of the government application on an IBM platform. That way the government does not have to worry about hardware, data or infrastructure.

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not have to worry about hardware, data or
infrastructure.

a scholarship for one student per year, with
the scholarship renewable for four years,
and his mom is still active in selecting the
scholarship recipient each year.

O’Malley is also helping in other ways.
He was recently named a member of the
board of Bluenog. He is passing on his
knowledge and experience in business and
strategy to help Bluenog. “Many times,
with a startup, you have the ideas and the
money, but you don’t have the business
sense. With my experience, I’m able to
help and parlay my successes with CA into
strategies for Bluenog.”
Undergrad teachers continued

great for math and science," she says. 

Now in her second semester as a TA, Hannah says, “I love it, and love the connection.” She also sees benefits in having undergraduate students help teach the course. “Sometimes there is a professional disconnect between professors and the students. Some students are too intimidated to talk to their professors, so having people a bit closer in age to the students can break down some barriers.”

Breaking down barriers can lead to opportunities, and that’s what has happened for Stefan Nelson-Lindal. Stefan is a second year student, and a computer science major who TAs for the CSCI 1902 course. Stefan had a great experience playing video games with his TA, Andrew Tran. When he was asked to TA by CS&E instructor Chris Dovolis, he was glad to do it. He is now in his first semester as a TA and says it’s going really well. For his work in the 1902 lab, Stefan helps students who have questions, and also holds office hours in the lab, allowing time for students to finish their work. Unlike TAs for the CSCI 1113 course, Stefan also grades homework. His favorite part, however, is being able to write labs with another TA.

“It has really given me perspective for people who haven’t seen and done this kind of work before,” he says. “Initially, I underestimated how difficult it was to write assignments. It has given me more respect for what professors do, I understand how complex it is to create assignments with the right amount of difficulty for each class.”

Stefan is putting his work in computer science to good use, he has already been a summer intern at Thomson Reuters in Eagan where he had a lot of fun doing research and development work. When he graduates, Stefan plans to go on to graduate school in computer science.

According to University of Minnesota Graduate Program Coordinator Georganne Tolaas, Stefan’s experience as a TA as an undergrad will certainly help his application. “It’s not something that we often see on graduate applications and it is certainly something that we look for.” She adds, “It is another positive factor in their review, and especially helps their chances of getting funding.”

Tolaas also said that “The Undergraduate TAs clearly provide a valuable service to the department, filling a need for instruction, but it’s also a benefit for the TAs. The opportunity to demonstrate their knowledge to others, reinforcing their own knowledge and having the ability to present material to others looks good on their resume, whether they are looking for graduate positions or industry positions.”

The experience has already helped other TAs. Andrew Tran is now at Carnegie Melon. Tahin Sayed, another 1113 TA, will be entering the Ph.D. program at MIT this fall.

Both Hannah and Stefan will be adding the experience to their resumes as they look for internship positions. Though the work pays and gives them professional benefits, Hannah and Stefan both say that the work has been a great experience, one that they would be happy to do again. As instructor Chuck Sullivan says, “They get paid, but they do it out of love.”

Cyber Security speakers Gopal Khanna (left) and Ron Ross (right). Information Officer for the State of Minnesota, Gopal Khanna. A keynote address was provided by Dr. Ronald Ross, of NIST who discussed the federal administrations priorities on Cyber Security, an increasingly critical issue for the safety and well being of the nation.

Dr. Ross discussed Minnesota’s tradition of activity in this area, including research and teaching at the University of Minnesota and other colleges. He also touched on policies and operations in the State Government, and products, services and advice in the Industry.

We had a wonderful event with great enthusiasm from the speakers, presenters and attendees. The CS&E department is looking forward to hosting our next Technology Forum and Open House in October, 2011.
We would like to express our sincere gratitude to the following companies, alumni, and friends of CSE who have provided generous financial support for our work. We look forward to continuing this partnership.

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