

Dreama Frost Passes Away

Dreama Frost became the advisor for the Department of Computer Science & Engineering's Professional Master's Program in July 1998. In December 1998, at the age of 28, she came down with a sudden illness and passed away.

Her fiancée, Richard Deal, has provided this brief biography. It is his wish that we establish a scholarship fund, to serve as a memorial to Dreama, and to assist other worthy students in pursuing their education.

Dreama Frost grew up in the rugged but beautiful foothills of the Blue Ridge mountains of Virginia. Ultimately, and ironically, it is this rugged beauty that best describes Dreama. Gifted and energetic, from early on she pursued everything with great zeal and passion. This dominant characteristic of her nature permeated all facets of her life, from her

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Dreama Frost Endowed Scholarship

The Department of Computer Science & Engineering and Richard Deal have established an undergraduate scholarship in Dreama's name. The Dreama Frost Endowed Scholarship will assist UW CSE students who have overcome significant obstacles in pursuit of education.

Contributions can be sent to:

**Dreama Frost
Endowed Scholarship**
UW Department of Computer
Science & Engineering
Box 352350
Seattle, WA 98195-2350
Attention: Chris Cunningham

Checks should be made out to the University of Washington, and accompanied by a cover letter specifying the scholarship fund.

PMP: "A Good Tough"

Paul Rodman laughed when asked how hard it had been to complete the UW CSE Professional Master's Program. "There's no gain without pain," Rodman said. "And there was plenty of both in the PMP."

Last winter, Rodman, President and sole employee of his own software development company, iLanga, became one of the twenty graduates the PMP had produced since its introduction. Thirteen additional PMP graduates were added to the total at the end of Spring quarter. Rodman's assessment of the program, while delivered with a smile, reflected the feeling of most of the initial graduates. "It was tough, but it was a good tough," he said. "It strengthened rather than weakened me"

David Shiflet, a Microsoft employee who now works in User Interface Development, saw things a bit differently than Rodman. "It was easier than I thought to take the program while working full time," Shiflet said. "Having most of the classes just once a week helped. Having them teleconferenced to the Microsoft campus helped even more."

The PMP is designed for working professionals in the state's information technology industry. While the majority of the approximately 120 current PMP students attend the evening courses on campus, at least one of the three PMP courses per quarter is teleconferenced to

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kindness to others to her studies at school. Her gifted intellect was evident at an early age and her passion for learning was encouraged by her teachers. As expected, she excelled ahead of her class.

By the time Dreama reached high school it was clear she was intent on expanding her horizons through education, both as a person and beyond the environs of the Blue Ridge mountains. Her talents and achievements were recognized and encouraged. By the end of her junior year it was obvious that high school level instruction was too limiting and she was allowed to pass over her senior year and enroll in college. She embraced the challenge with typical fervor and performed admirably and in her characteristic style, completing both her senior year of high school and freshman year of college simultaneously. Dreama's career as an under- and post graduate student was no less impressive. She completed a two year Masters program in one year with a 3.7 grade point average while working 30 hours a week, commuting one hour each direction for every class.

Upon the conclusion of her post graduate studies, Dreama found herself again in academe working as a consultant in higher education admissions, and in this she excelled. After a few short years of consulting, at the age of 25, Dreama was offered and accepted the position of Dean of Enrollment Management at Mount Vernon College in Washington, D.C. Her track record at Mt. Vernon was exceptional: she set enrollment records almost every cycle. Two years later, she was offered, and accepted, a similar position as Dean at Chatham College in Pittsburgh, Pennsylvania. Again, through her leadership, enrollment records were set. Dreama's final challenge was to leave the familiar and explore a new region of the country, which brought her to the University of Washington.

We can chart the course of Dreama's life and praise her noteworthy accomplishments, but the driving force behind all of her achievements was her engaging and dynamic personality, her boundless energy and enthusiasm, and her

admirable character. It was these aspects of her that saw her through the tremendous challenges of her early life, challenges that could easily break one's spirit. This scholarship is representative of and testimony to her life: admirable qualities we as human beings strive to embody in our character and live through our actions. It represents recognition of ability and the perseverance under challenging conditions to achieve a dream, the desire to better understand ourselves and the world around us through knowledge, the desire to know the joy of helping others realize their dreams. These qualities, among many others, were the essence of Dreama.

Brian Curless helping create digital replicas of Michelangelo's sculptures

An exhausted, yet exhilarated, Brian Curless recently returned from Florence, Italy, where he spent two months working as many as 20 hours a day on the first phase of an ambitious effort to create virtual replicas of Michelangelo's sculptures.

"It was much harder than we expected, but we've got data that will knock your socks off," says Curless, an assistant professor in the UW Department of Computer Science & Engineering. "We are able to get quarter-millimeter resolution, which is good enough to see Michelangelo's chisel marks clearly. It's an unbelievably faithful representation of the original."

The Digital Michelangelo Project, led by Curless' doctoral research advisor at Stanford University, Marc Levoy, aims to produce the first authoritative computer archive of the Renaissance master's sculptures.

The high-resolution, three-dimensional images will break new ground in computer graphics research and could help make Michelangelo's

masterpieces available to art lovers and historians around the world.

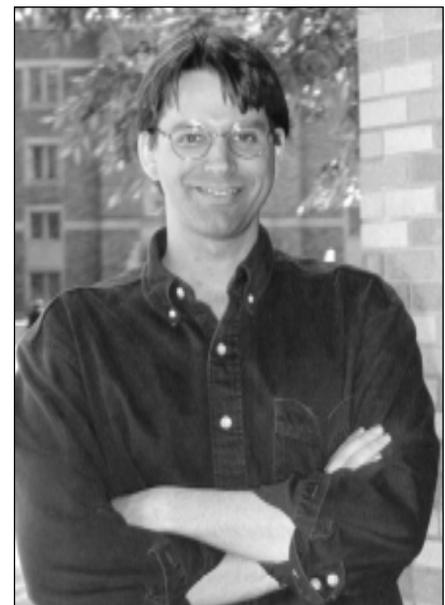
The wonders of computer graphics technology would allow viewers to examine a sculpture from various perspectives, zoom in on details as small as chisel marks and change lighting conditions to see how they affect a statue's appearance. Computers might even be used to "virtually" restore damaged sculptures or speculatively complete unfinished works.

Levoy and his team of computer science researchers and students are spending the 1998-99 academic year in Italy. Curless joined the group from mid-January to mid-March to help oversee the initial scanning work on Michelangelo's "St. Matthew," "The Unfinished Slaves" and "The David" - all housed in Florence's Gallerie dell'Accademia

The Digital Michelangelo Project builds on Curless' doctoral research on an advanced scanning and modeling technique that produced the world's first 3-D fax. He scanned a small Buddha statuette, created a high-resolution 3-D model of it, and transmitted the model electronically to a stereolithography plant that used the data to produce an identically shaped replica of the original.

The technique uses laser scanners to shine light on an object and measure the

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Microsoft in Redmond and to Intel in Dupont.

Barbara Raitz, who received a Bachelor's degree in Computer Science from the UW in 1989, returned for the PMP after working seven years as a Software Engineer and Senior Software Designer. Raitz said that several things, including the fact she was approaching job burnout, brought her back to the UW. "When I joined the PMP, I hoped to strengthen skills I had been developing as a professional engineer and bring that skill set up to date. Further, it was my goal to broaden and extend my knowledge of computer science in terms of practices, theories and techniques. I feel I have achieved all of this, and as a result, I am a much stronger and more confident engineer."

Raitz also graduated from the PMP in Spring 1998 and ended up leaving the software firm that employed her until just before graduation on what she says were "very good terms". Raitz said the master's degree made an amazing difference in her new job search. "Just saying I had a masters degree got me interviews much faster than ever before. Employers take you seriously and are impressed that you went to such efforts to improve your skills. Having participated in the program, I could talk about a full range of subjects and projects to some depth. This, along with my work skills, presented a full, balanced package."

Many of the graduates stated that their motivation for taking the PMP was as much for gaining knowledge as advancing their career. Adam Horowitz was employed by Microsoft for four years when he enrolled. After completing the program he relocated to Microsoft Israel as a Performance Lead for Microsoft Message Queue Server, an NT component. "There were two things that made me take the program," Horowitz said. "I enjoy learning, and I was still harboring regrets for leaving school and joining the industry."

Horowitz added that while he gained significant information he has used on his work projects—he singled out the Transaction Processing course as one he has applied extensively on the MSMQ transaction engine—the motivation for

entering the program should still be focused on the knowledge itself. "Join the PMP if you enjoy learning and want to give that gray matter a workout. Don't necessarily expect it to change your life or your career. Just do it for the fun of it."

Rodman, the President of his one-person company, might disagree. He contracts almost all of his work to one company, and said he had a conversation with his major client soon after he completed the program. "I told him he is going to have to start paying me more, because I am terribly well qualified now."

As for juggling a job, family obligations and coursework, each graduate had their own advice. Hung Mach, a Boeing Digital Designer and Autumn 1998 PMP graduate said, "it was very hard in the first few quarters, but gradually I felt more comfortable and was better able to balance my schedule."

According to Barb Raitz, a supportive work environment is absolutely crucial for PMP completion. "The same is true for family and friends," Raitz said. "They just have to understand that priorities are going to change for a short while, otherwise you can't pull it off." Sohrab Amirghodsi, a Computer Scientist at Adobe, agreed. Last Autumn Amirghodsi added his Master's degree to his 1991 UW Bachelor's degree in Computer Science. "Even though there was a lot of work, it was worthwhile," Amirghodsi said. "Of course, it's true that way in life. If you really are interested in what you are learning, it makes all the extra work tolerable, and even enjoyable."

PMP Facts

The Professional Master's Program in Computer Science & Engineering offered by the University of Washington's Department of Computer Science & Engineering is designed for active professionals at the forefront of the state's burgeoning information technology industry who wish to further their educational and professional goals. Created in 1996, the PMP enrolls approximately 120 students, welcoming 40 new students each year.

Accessible in several ways, the PMP is part-time, offers courses through a mix of distance learning and evening courses, and employs Internet technology and corporate and personal computing resources. Building upon existing partnerships with other UW organizations and many high-technology companies, the PMP complements the department's and UW's existing educational programs. Most importantly, the program offers students access to UW CSE's first-class faculty and curriculum, in a student group that includes some of the strongest computing professionals in the region.

Successful applicants should have a Bachelor's degree in Computer Science, Computer Engineering or a closely related field and one or more years of leading-edge computing industry experience. Students typically complete one course per quarter, finishing the program in 2.5 years.

Additional information can be obtained through the PMP Web site at <http://www.cs.washington.edu/masters/>, or by calling the department at (206) 543-1695.

Hey Sportsfans — Tyee Club "points" can be earned by donating to CSE!

Are you a CSE alum who's a Husky football or basketball fan? If so, you probably belong to the Tyee Club in order to receive priority seating.

A recent change in Athletic Department policy allows donations to academic programs (rather than only gifts to the Athletic Department) to earn Tyee Club "points," if you donate at the President's Club level (at least \$2000 per year).

To avoid horrifying those of you who are

not already familiar with how Tyee Club priority seating works, we won't describe it here! You can find the details on the web: go to the Husky sports home page (www.gohuskies.com), choose "Tickets" from the pagetop banner, then choose "Donors" (under "Marketplace"), then choose "The Tyee Club."

CSE alums might also be interested in knowing that it's possible to donate to UW CSE through the United Way campaign.

reflection in order to produce a detailed map of the object's surface. Multiple scans are taken to ensure data is acquired from as much of the surface as possible. Each scan is initially positioned by hand in relation to previous scans, then specialized software automatically aligns and merges all the scans together into a single, complete 3-D model.

The merging process also greatly reduces the amount of space and time required to store and render the model by fusing overlapping scans of a particular surface area into a single representation. This is a big deal, Curless points out, when you consider that capturing all 23 feet of "The David" statue and pedestal required 500 scans and produced a billion data points - enough data to fill tens of thousands of floppy disks.

Even with all of those scans, data is still missing from hard-to-reach places such as between the sculpture's fingers and between locks of hair. These gaps represent less than 1 percent of the statue's total surface area and may be filled in later with artistic software. The computer scientists are seeking ways to make clear what is based on real data and what is artistic representation, Curless says, so art researchers will be able to study the models as surrogates for the real sculptures. Another open question is how best to store and display these virtual sculptures, which represent some of the largest computer models ever created and would overwhelm most existing PCs.

"We've pushed the state of the art in computer graphics by scanning and modeling some very large objects at very high resolution," Curless says. "The next step will be to figure out how to display these models, and that will push the state of the art even further. Our dream is to create a virtual gallery where you would open the door, walk up to 'The David,' float in the air and look him in the eye. That would be the ultimate experience."

The \$1.5 million project is funded by Interval Research Corporation and the Allen Foundation for the Arts.

Datagrams

Oren Etzioni takes leave of absence to be CTO at Go2Net Go2Net, Inc., a network of branded, technology- and community-driven Web sites, has hired Associate Professor Oren Etzioni, co-creator of the award-winning MetaCrawler online search service, as chief technology officer. Under an agreement with Vulcan Ventures, Inc., Paul Allen's investment organization, Go2Net will work with Allen's affiliated cable companies to provide those companies' subscribers with access to Go2Net's portal services and content. Allen's cable assets currently represent the nation's 7th largest cable operation. In addition to his broadband-focused duties, Etzioni will supervise the ongoing implementation of promising new Web technologies for the Go2Net Network and its individual properties. Go2Net acquired the exclusive license to MetaCrawler in 1997, and the site has since been recognized by many industry publications as the Internet's finest search service, including 'Best Search Engine' in 1997 and 1998 by PC Magazine.

UW CSE Alum Kevin Jeffay honored Ph.D. graduate Kevin Jeffay, a student of Alan Shaw, has been named S.S. Jones Distinguished Term Professor at the University of North Carolina. This is a 5-year professorship "to acknowledge excellence in research or creative activity, and a demonstrated commitment to undergraduate or graduate education, on the part of a mid-career faculty member."

Chris Diorio receives NSF PECASE Award Assistant Professor Chris Diorio was named one of 20 young National Science Foundation researchers to receive the third annual Presidential Early Career Awards for Scientists and Engineers (PECASE), the highest honor bestowed by the United States Government on young professionals at the outset of their research careers. Eight federal departments join together annually to nominate the most meritorious young scientists and engineers who will broadly advance science and technology that will be of the greatest benefit to the participating government agencies. "These talented young men and women show exceptional potential for leadership at the frontiers of scientific knowledge," President Bill Clinton said at the presentation ceremony in February. "Their passion for discovery will spark our can-do spirit of technological innovation and drive this nation forward and build a better America for the 21st Century."

UW CSE Alum Udi Manber wins 1999 STUG Award The Software Tools Users Group (STUG) 1999 Annual Award was presented to Ph.D. alum Udi Manber for a career dedicated to turning algorithms into tools, particularly in the areas of searching and resource discovery. Some of these well known tools include 'agrep' (approximate grep), Glimpse and its variants, Harvest, and the Search Broker. Manber is a Professor of Computer Science at the University of Arizona, currently on a leave of absence working as the Chief Scientist of Yahoo!.

David Notkin finalist for Distinguished Graduate Mentor Award This year, for the first time, the University of Washington bestowed the "Distinguished Graduate Mentor" award, recognizing outstanding mentorship of graduate or professional students. Professor David Notkin was one of four finalists for this award, out of a nomination pool of over 100 distinguished graduate advisors.

Datagrams

Mary Gates Scholars in the Department The Mary Gates Endowment for Students, provided as a gift in memory of Mary Gates by Bill and Melinda Gates, funds research training and leadership grants to undergraduate students at UW. These grants enable students to engage in intensive scholarly, creative or public service activity with faculty and community mentors. This spring, CSE undergraduates Emma Brunskill and Nathan Freier received Mary Gates Research Training Grants, and Mark Always received a Mary Gates Leadership Grant. Previous CSE recipients include John Davis, Gregory DeFouw, Arthur Gregory, Michael Palmer, Anthony Wiegner, and Kevin Zatloukal.

Teaching Awards The Bob Bandes Memorial Award for Outstanding Teaching Assistant was awarded to Sean Sandys for Graduate TA, with Steve Wolfman receiving honorable mention, and to Eric Youngblut and Dorian Miller for Undergraduate TAs. Also, at the ACM BBQ this spring, Professor Martin Tompa was awarded the ACM Distinguished Teaching Award for the second year in a row.

Alon Levy wins Sloan Fellowship Assistant Professor Alon Levy joins an elite group of 100 researchers who were named Sloan Research Fellows this year. The Sloan Research Fellowship was established in 1955 to support young scientists beginning their research careers. Twenty-three past recipients have gone on to win Nobel Prizes. Levy is the third member of the UW CSE faculty to win this fellowship, joining Tom Anderson and David Salesin as Sloan Fellows. Levy's research focuses on artificial intelligence and databases.

CSE announces new Early Decision Program In a bid to lure superstar Washington high school seniors to the UW instead of losing them to places such as MIT or Stanford, the UW announced that up to 10% of the positions in CSE's undergraduate programs will be offered to outstanding high school students who have been admitted to UW and expressed a preference for the field. The new "early decision" program is crucial to getting the best and the brightest computer scientists of the future. "The University of Washington is unusual in that students choose their majors relatively late, so if you have your heart set on a competitive major, that can be a drawback when you're choosing schools," says CSE Chair Ed Lazowska. "I don't want great Washington state students to feel like they ought to choose an institution other than the UW." The freshmen admitted under this program will have to meet satisfactory progress requirements to maintain their status with the department.

Dan Weld named AAAI Fellow In May, Professor Dan Weld was named one of only 3 new AAAI Fellows for 1999. He joins a very select group of leaders in the field of artificial intelligence, and received this honor for "significant contributions to the development of qualitative reasoning methods, software agent technology, and plan synthesis algorithms."

Promotions and New Hires Associate Professors Paul Beame and Susan Eggers have both been promoted to the rank of full Professor, effective Autumn 1999. New faculty hires for 1999-2000 include: Zoran Popovic (Carnegie Mellon University), in graphics; Narayanan (Shiva) Shivakumar (Stanford University), in databases; and Henry Kautz (AT&T Research), in artificial intelligence. Full profiles will appear in the next issue of MSB.

Doctorate Degrees Awarded

Congratulations to our recent PhD graduates, listed below with their research advisor, initial appointment, and dissertation title:

Jayram Thathachar
Beame IBM Research
Time-Space Tradeoffs and
Functional Representations Via
Branching Programs and Their
Generalizations

David Grove
Chambers IBM Research
Effective Interprocedural
Optimization of Object-Oriented
Languages

Pai Chou
Borriello UC-Irvine
Control Composition and Synthesis
of Distributed Real-Time Embedded
Systems

Andrew Berman
Shapiro start-up
Efficient Content-Based Retrieval
of Images Using Triangle-
Inequality-Based Algorithms

Sung-Eun Choi
Snyder Los Alamos Nat'l Lab
Machine Independent
Communication Optimizations

Darren Cronquist
Ebeling Hewlett-Packard Labs
Reconfigurable Pipelined
Datapaths

Dennis Lee
Baer
Execution Characteristics and
Optimization of Modern
Commercial Applications

Erik Selberg
Etzioni Go2Net
Towards Comprehensive Web
Search

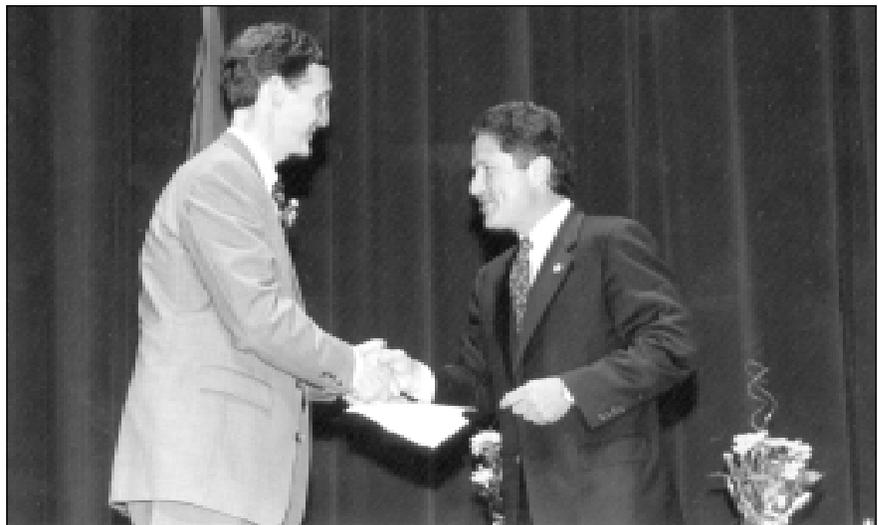
CSE Wins Brotman Award for Instructional Excellence

The department was named one of the recipients of the Brotman Award for Institutional Excellence this spring. The award, presented for the first time this year, was established by a gift from Jeff and Susan Brotman that provides annual awards for educational excellence at the unit level at the University of Washington.

"I'm happy that our work has been recognized by the University through this award," commented Ed Lazowska, Chair of the Department. "And what's really special about this award is that it's one that we all have received together — it's a kind of 'distinguished teaching award' for the whole department."

The Department will receive \$15,000 as part of the award, and will use it as part of the initial funds for the Dreama Frost Endowed Scholarship for undergraduate students in CSE (see related story on page 1). The other recipients of the Brotman Awards this year are the Department of Geography, and the program on Community Planning and the Environment in the School of Architecture and Urban Planning. The award has been funded by a \$250,000 donation by the Brotmans. Jeff is a graduate of the UW law school, founder of Costco and a UW Regent; Susan is a director and former chair of the UW Foundation.

Dean Denton provided a detailed letter of nomination to the Brotman Award Selection Committee, and with her permis-



sion we've excerpted from the letter:

"I take enormous pleasure in nominating the Department of Computer Science & Engineering (CSE) for the inaugural Brotman Awards for Instructional Excellence. CSE exemplifies the integration of research and education and therefore provides truly outstanding undergraduate and graduate education. CSE is one of a handful of UW programs consistently ranked in the top ten in their field at the doctoral level — currently 9th by the National Research Council for faculty quality, 6th by the National Research Council for graduate program effectiveness, 7th by US News in Computer Science, and 10th by US News in Computer Engineering (out of more than 100 programs in each case). Recent CSE graduates have received offers from essentially every top academic department and industrial research laboratory, and dozens of the department's recent graduates populate these outstanding programs.

"What is truly unique about CSE, though, is the way in which this excel-

lence in graduate education and research is complemented by — and contributes to — excellence in undergraduate major education, introductory education, institutional educational leadership, and community educational outreach. Excellence in these four complementary areas, and in particular the seamless confluence of research and education achieved by CSE, is the foundation of my nomination and the reason that CSE should receive a Brotman Award."

MSB is published semiannually by the UW Department of Computer Science & Engineering to provide current information about its undergraduates, graduate students, faculty and alumni. MSB is supported by the CSE Industrial Affiliates Program. Volume 11, Number 1 editors are Alan Borning and Scott Dakins. Photos by Judy Watson, Richard Deal, Brian Curless, Scott Dakins, and Aileen Kelly.

Great Moments in Bureaucracy

Inaugurating an occasional series on the Department's dealings with the University

The year was 1981. Ronald Reagan had just been elected President, and the Department had just been awarded the first of the National Science Foundation Coordinated Experimental Research

awards. As part of the project the department built a set of workstations — but over time they got pretty dusty inside. John Bennett, then a grad student working in the CER systems group, recalls asking the lead technician to buy a vacuum cleaner from Sears. UW Purchasing promptly bounced back the request ("only Janitorial Services can buy vacuum cleaners"). Resubmitting the

receipt for a "computer dust removal apparatus" did the trick.

The astute reader will notice that this item, as well as ones to appear in future issues, happened years ago. There are two reasons for this: first, the statute of limitations has expired (we think), and second, nothing like this happens any more in the department anyway.

— Editor.

Alistair Holden, Pioneer Member of the Department

Alistair Holden, a founder and early participant in the computer science program at UW, died February 3. He was 70. Professor Holden was on the faculty of the Department of Electrical Engineering throughout his career, and was an active participant in the computer science department's early days as a group within the Graduate School, when it was formed by faculty in Electrical Engineering, Mathematics, and other departments. From 1989 until 1998, he had a joint appointment between EE and CSE. He retired in spring 1998.

Professor Holden's primary research area was artificial intelligence and its applications, including over the years such areas as knowledge-based systems, verification of expert systems, integrated symbolic/neural net methodology, speech understanding, and computer-aided design. He chaired the first International Joint Conference on Artificial Intelligence in 1969, and served on its Board of Directors for three decades. The IJCAI conferences continue to be one of the premier forums for the presentation of new work in artificial intelligence. As reported in MSB last year, he recalled how ICJAI got started. "I gave a paper at the 1967 national ACM conference and attended a meeting of SIGART, the Special Interest Group for Artificial Intelligence. They wanted a national AI conference and I agreed to arrange it. I contacted the well known people in the field, such as Minsky, McCarthy, Newell, etc., who were enthusiastic and agreed to contribute. I also got cooperation from the computer societies in Britain, France, Germany, Russia (all countries active in computer science at the time), making it international. I recruited Don Walker (program chair) and the rest of the conference committee. ACM's Washington D.C. chapter agreed to host it, so we held the first IJCAI in Washington, D.C. in 1969."

In addition to his research, Professor



Holden was active in recruiting and retaining minority and women students into computer science and engineering. He founded the Minority Introduction to Engineering (MITE) program at UW twenty years ago, and continued working with the program up until his retirement. MITE is a nationwide, two week intensive program designed to attract high achieving women and minority high school seniors to study engineering. It has been quite successful in the past, with almost all of the students going into engineering at good schools.

"He was one of the pioneers," said Ed Lazowska, department chair. "He helped launch computer science as an academic discipline at UW, and internationally was one of the founders of the field of artificial intelligence. And he continued to take a strong interest both in educating young people, and in research, throughout his career." On a personal note, Alan Shaw recalls "He was also very athletic throughout his life — he was a strong racquetball opponent."

Born and educated in Lochgilphead, Argyll, in the Scottish highlands, he earned his B.Sc. degree in electrical engineering from the University of Glasgow in 1955. He then spent two years with the British Broadcasting

Corporation's Engineering Division as a "graduate apprentice," primarily in the Research Division. He then spent a year at Yale University on the "Edison" fellowship and received an M.Eng. degree in 1958. In that year he entered the Ph.D. program in Electrical Engineering at UW, receiving his Ph.D. in 1964 with a dissertation on learning in artificial intelligence. Despite his many years living in the US, he still retained the Scottish roll to his 'r's.

He is survived by his wife of 39 years, Maretta Holden, a daughter, Marte Menz, and a son, Larry Holden, all living in the Puget Sound area; brothers Robert Holden of Scotland and William Holden of England; a sister, Annette Holden of Scotland; and a grandchild.

CSE Distinguished Lecturer Series 1999

October 7, 1999

Hal Varian

University of California – Berkeley
"Five Forces in the Network
Economy"

October 14, 1999

Elliot Soloway

University of Michigan
"Schools Don't Want Technology,
Schools Want Curriculum"

November 4, 1999

Eva Tardos

Cornell University
"Approximation Algorithms for
Some Clustering and Classification
Problems"

December 2, 1999

David Tennenhouse

Defense Advanced Research
Projects Agency
"Proactive Computing"

Washington Research Foundation Re-Invests in UW CSE

The Washington Research Foundation (WRF), using part of the proceeds from its recent sale of Numinous Technologies, Inc., has donated \$105,855 to UW CSE.

The money will be used to augment the department's computer graphics research activity. "This is particularly appropriate since Numinous had its roots in earlier graphics research at the university," said John Reagh, WRF project manager for Numinous.

Numinous, a start-up founded in 1996 around several software technologies developed at the University of Washington, was acquired by Microsoft Corporation in March 1999. WRF assisted with formation of the company and provided venture capital funding.

"It has long been our intention to make gifts from our start-up company investment profits to the University of Washington and other research institutions in the state," said Ronald Howell, president of WRF (pictured here presenting CSE Chair Ed Lazowska with the check).

WRF has invested over \$3 million in seed money in eight start-up companies since its formation as an independent organization in 1981.



NEWS FLASH: As this issue goes to press, we have learned that WRF will donate an additional \$500,000 to establish the Tom Cable/WRF Professorship in Computer Science & Engineering, and will establish 5 ARCS Fellowships for the department. Details in the next issue of MSB.

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