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photo by Heather Keeling

Hank Levy addresses CSE Celebration attendees in the Microsoft Atrium in the Paul G. Allen Center for Computer Science & Engineering

CSE celebrates Campaign UW and five years in the Allen Center

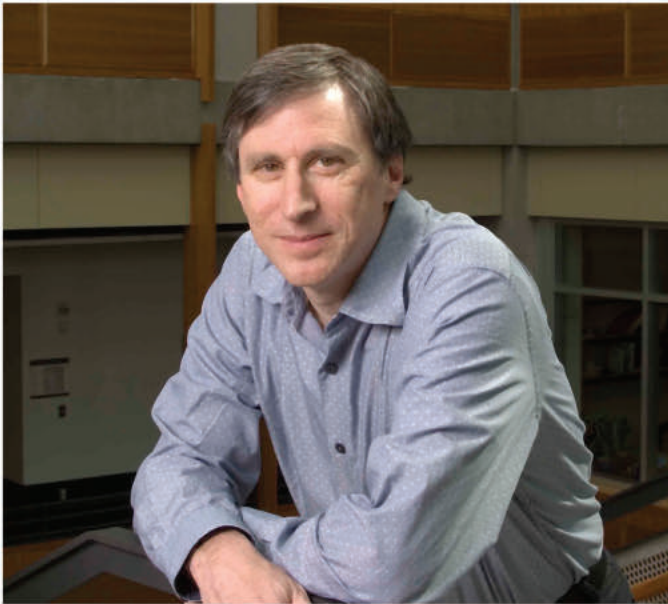
"Come see what the future has in store!" On October 7 — with the promise of entertainment, food, fellowship, and content — CSE and our friends and alumni celebrated the conclusion of Campaign UW and the first five years in the Paul G. Allen Center for Computer Science & Engineering.

As Paul Allen said at the building dedication of the Allen Center in October 2003, "It's all about the people." The CSE Celebration was an opportunity to showcase the impact on our missions of learning, discovery, and engagement of the generosity of many hundreds of friends and alumni who have provided UW CSE with the finest computer science building in the nation, and with dozens of new endowments that support the undergraduate students, graduate students, and faculty who work there (see a list of newly created endowments on page 7).

Attendees at the CSE Celebration toured our state-of-the-art labs, enjoyed the wonderful collection of UW-related art that graces our building, and enjoyed each others' company.

Additional photos from the evening may be viewed on page 8.

From where I sit...



These are challenging times for all of us. As counterpoint, however, I'd like to highlight some exciting developments that have happened in CSE over the last year or that are on the horizon.

As described in an article on page five, we made some significant hires to grow the department in both core areas and new directions. Interdisciplinary research that crosses the boundaries of fields and departments is becoming increasingly important in the modern world, and CSE is positioned at the middle of much of this activity. In this context, we made two exciting hires. Emo Todorov will join us in the spring and will have a joint appointment with the Department of Applied Mathematics. Currently an associate professor at UCSD, Emo is an expert in the application of control theory to human muscular movements. He will collaborate with Yoky Matsuoka on robotic prosthetic devices. Georg Seelig also will join us as assistant professor in the spring and will have a joint appointment in Electrical Engineering. Georg is a physicist who has spent the last four years working on synthetic biology at CalTech, where he has demonstrated how to create simple logic gates out of DNA.

We also strengthened the core of the department with two other exceptional hires. Mike Ernst, whose research includes software engineering and programming languages, joins us from MIT, where he was an associate professor. Mike received his Ph.D. from CSE in 2000, and we're extremely happy to have him back. Shwetak Patek joins us after completing his Ph.D. at Georgia Tech last summer. Shwetak, who has a joint appointment with EE, works on ubiquitous computing and HCI and specializes in developing novel sensors for the home.

I'd also like to whet your appetite for some research initiatives under way in CSE:

- In November, faculty members Yoky Matsuoka and Raj Rao, along with CSE affiliate professor Desney Tan from Microsoft, ran a two-day workshop on neural engineering that attracted 150 people. They hope to create a neural engineering center that will combine computer science and neuroscience to provide new capabilities for people with various neural disabilities.
- A second focus area is the creation of technology for the developing world. A number of CSE faculty are active in developing world or health care projects, including Gaetano Borriello, Richard Anderson, and James Landay. We have established collaborations with many organizations at UW, in Seattle, and worldwide to focus on using technology to improve lives in the developing world.
- Zoran Popovich in CSE has been working with biochemist David Baker to create an online game called Fold-It. The goal of the game is to use people's three-dimensional visualization skills to help solve protein folding problems that could lead to cures for disease. Fold-It currently has 100,000 users.
- CSE continues to make enormous progress in its HCI (human-computer interaction) effort. James Landay has led the creation of DUB, a campus-wide center in HCI and design, which has made UW a dominating presence at the national HCI conference (CHI).
- Finally, UW kicked off a new eScience Institute last month. Directed by Ed Lazowska, the eScience Institute seeks to bring computational scientists in fields such as physics, astronomy, and oceanography together with technologists who are advancing the state of the art in processing huge data sets, e.g., with machine learning, data visualization, and massive-scale cluster computing.

Despite the hardships we face, it's an exciting time. I'm extremely optimistic about our future — an optimism enhanced tremendously by the support, encouragement, and interest we continuously receive from you, our friends, and alumni. I'd like to wish you all the best in this holiday season, and a happy and healthy new year.

Henry M. Levy
Chairman and Wissner-Slivka Chair

Computer technology and public health intersect



Brian DeRenzi in Uganda

Interdisciplinary research can be incredibly exciting, pulling the best aspects of multiple fields together. Brian DeRenzi, a third-year graduate student working on designing, developing, and deploying mobile technologies for health care workers in rural East Africa, knows this first hand.

DeRenzi spent three months in 2007 working in rural Tanzania on a children's health project, which is now being piloted in two districts in the country. In 2008, he spent three months in Uganda, working with the Millennium Villages Project to explore the use of mobile phones for community health workers (CHWs). Whether trekking for hours through banana plantations in the rain in rural Uganda, or spending time with health workers on the coast of the Indian Ocean, the research is never dull.

In April 2008, DeRenzi received a Fulbright Fellowship to continue working with CHW in Tanzania for the next 10 months. Brian is designing, developing, and deploying a mobile phone-based support tool for CHWs. The work involves spending a lot of time with CHWs, who are often in the best position to deliver health information and preventative care, but are often not well trained, have little supervision, and maintain high case loads.

DeRenzi and his colleagues believe that software they are developing for use on inexpensive mobile phones, called CommCare, can help address these challenges. Reminding CHWs to follow up with households with pregnant mothers can help with prenatal and neonatal care. Collecting data more efficiently can help with supervision and allow the health system to respond



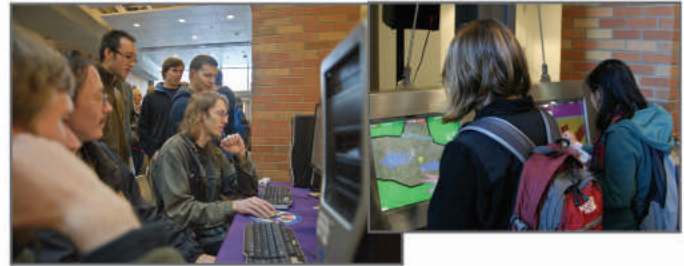
A community health care worker using CommCare in the field.

rapidly to changing needs. And finally, training health workers on the protocols for saving lives through the use of electronic devices can improve quality at the point of care. For the next year, DeRenzi will be in the field, continuing his work at the intersection of computer technology and public health.

To learn more about exciting projects at the UW that are using technology to help in low-income regions, check out the change group:

<http://change.cs.washington.edu>

Let the games begin



Students from CSE481D demo their games in the Atrium

This year, Professor John Zahorjan's CSE481D Games Capstone class developed video games to be played on the touch-screen kiosks located near the main entrance to the Allen Center — normally used to host building directories. The demos in early December packed that corner of the Atrium (and froze the patrons at the nearby Reboot espresso stand, since the crowds kept tripping the sensors on the sliding exterior doors). The games will become a permanent fixture of the kiosks; we predict long lines for directory inquiries in the future! Additional photos of this demo may be viewed at:

<http://hemingway.cs.washington.edu/>

Packed house for industrial affiliates meeting!



CSE's 2008 Industrial Affiliates meeting enjoyed record attendance. Over 140 Affiliate members attended the technical sessions on October 23, which focused on topics such as socially relevant applications, neural engineering, and usable security and privacy. Pictured above is the October 24 recruiting fair, which had 38 participating companies (with more on the waiting list). The main objective of the Industrial Affiliates Program is to support the mutual needs of industry and academia in computing. The annual meeting is an example of these efforts. For more information on the CSE Industrial Affiliates Program, please check us out on the web at:

www.cs.washington.edu/affiliates

Datagrams

CSE news page revamped!

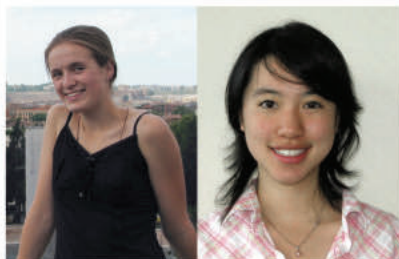
UW CSE has recently revamped its news page, including a new email alert and RSS feed for news items. Please sign up to stay in touch, at: <http://news.cs.washington.edu/>



CSE's WebAnywhere receives Mellon Award for Technology Collaboration (MATC)

Presenting the award at the Fall Task Force meeting of the Coalition for Networked Information (CNI), Internet pioneer Vint Cerf stated: "The MATC Awards have a history of recognizing projects that improve accessibility for people with visual or other impairments, and this year is no exception. By providing a screen-reader as a Web server component, WebAnywhere allows an institution to provide screen-reading functionality to any computer, anywhere in the world, as long as it has speakers, an Internet connection, and a Web browser. Because screen readers can cost thousands of dollars per machine and cannot be moved easily, the total benefit to an institution can be considerable — and the improved mobility for persons with visual impairments generates substantial benefits for students and faculty."

Julia Schwarz and Jessica Leung recognized by CRA



UW CSE undergraduates Julia Schwarz and Jessica Leung were among 66 students from across the country recognized in the 2009 Computing Research Association Outstanding

Undergraduate Award competition. Since 1999, UW CSE undergrads have been recognized 31 times in the CRA awards competition.

CSE's Classroom Presenter wins 2008 Engineering Pathway Premier Award for Courseware

Engineering Pathway named Classroom Presenter the Premier Courseware of 2008! Classroom Presenter, by Richard Anderson, Ruth Anderson, Natalie Linnell, Craig Prince, and other members of the development team from the University of Washington, is a Tablet PC-based interaction system that supports the sharing of digital ink on slides between instructors and students. For more info on Classroom Presenter, please see:

<http://classroompresenter.cs.washington.edu/>

Dave Cutler receives National Medal of Technology & Innovation

CSE Affiliate Professor Dave Cutler received the National Medal of Technology & Innovation at a White House ceremony on September 29. He was recognized "for having designed and implemented standards for real-time, personal, and server-based operating systems, carrying these projects from conception through design, engineering, and production for Digital Equipment Corporation's RSX-11 and VAX/VMS, and for Microsoft's Windows NT-based computer operating systems; and for his fundamental contributions to computer architecture, compilers, operating systems, and software engineering."



UW CSE friends and family among 2008 Technology Review TR-35

Each year since 1999, *Technology Review* has honored 35 innovators under the age of 35. The 2008 TR-35 includes:

- Blaise Aguera y Arcas from Microsoft Live Labs, recognized for creating Photosynth by combining work from his startup Seadragon (acquired by Microsoft) with work by UW CSE professor Steve Seitz, UW CSE graduate student Noah Snively, and Microsoft Research computer vision researcher and UW CSE affiliate professor Rick Szeliski.
- Tanzeem Choudhury from Dartmouth, an affiliate faculty member in UW CSE, recognized for her work on inferring social networks automatically. She did her work at Intel Research Seattle in collaboration with CSE professors Gaetano Borriello and Henry Kautz, CSE graduate student Danny Wyatt, and EE professor Jeff Bilmes.
- Merrie Morris from Microsoft Research, an affiliate faculty member in UW CSE, recognized for her work in collaborative information gathering.

We want to hear from you!

Do you have news you'd like to share with the CSE community? Comments or suggestions for future issues of MSB?

Let us know! Email the editors at: msb@cs.washington.edu
and be sure to visit us online at: www.cs.washington.edu

MSB is published two times a year by UW CSE to provide current information about its students, faculty and alumni. MSB is supported by the CSE Industrial Affiliates Program. Editor was Kay Beck-Benton. Contributors: Brian DeRenzi, Ed Lazowska, Hank Levy, and Sandy Marviny. Photo credits: Bruce Hemingway, Heather Keeling, Sandy Marviny, and Rod Prieto.

MSB can be downloaded from: www.cs.washington.edu/msb

Recent additions to CSE faculty



Michael Ernst joins the CSE faculty as an associate professor in January 2009, leaving a tenured position at MIT. He received his Ph.D. from UW, so his return is a welcome home. Ernst's research aims to make software more reliable and secure and easier (and more fun!) to produce. His primary research interests are in software engineering and related areas, including programming languages, type theory, security, program analysis, bug prediction, testing, and verification. Ernst's research combines strong theoretical foundations with realistic experimentation, with an eye to changing the way that software developers work. For more information on Michael and his research, see: <http://www.cs.washington.edu/homes/mernst/>

Shwetak N. Patel joined the faculty in both CSE and EE in September 2008. He is part of UW Experimental Computer Engineering Lab (ExCEL) and the Human-Computer Interaction and Design Group (DUB). Patel received his Ph.D. in computer science from the Georgia Institute of Technology. Patel's research interests are in the areas of human-computer interaction, ubiquitous computing, and user interface software and technology, with a particular emphasis on developing and applying new low-cost, easy-to-use hardware and software solutions to enable novel activity-sensing applications. For more information on Shwetak and his research, see: <http://www.cs.washington.edu/homes/shwetak/>



Georg Seelig will join the departments of CSE and EE in 2009. He will be part of the Experimental Computer Engineering Lab (ExCEL). Seelig received a Ph.D. in theoretical physics from the University of Geneva in 2003 and is the recipient of a 2007 Burroughs Wellcome Foundation Career Award at the Scientific Interface. Seelig's research focus is the identification of systematic design rules for the construction of biological control circuits with DNA and RNA components. His approach integrates the design of molecular circuitry in the test tube and in the cell with the investigation of existing biological pathways such as microRNA. He is applying engineered circuits and circuit elements to problems in disease diagnostics and therapy. At a high level, Seelig's work seeks to increase our understanding of how organisms process information using complex biochemical networks and how such networks can be engineered to program cellular behavior.

Emo Todorov will join CSE in 2009 as an associate professor. He also holds a joint appointment in Applied Mathematics. Todorov received his Ph.D. in cognitive neuroscience at MIT in 1998. Previously, he was a tenured faculty member at UCSD in the Department of Cognitive Science. Todorov's research explores the real-time control of a complex biomechanical system, such as the human body, which requires the generation of thousands of control signals per second. The human ability to accomplish difficult tasks — in the face of noise, delays, uncertainty, and constantly changing circumstances — suggests that these control signals are chosen rather intelligently and to a large sense online. Todorov's goal is developing and testing a computational theory of the sensorimotor loops responsible for this moment-to-moment control, as well as using the theory to derive new biologically inspired control algorithms that can solve difficult engineering problems.



Richard Ladner receives 2008 Purpose Award



Richard Ladner, Boeing Professor in Computer Science & Engineering at the University of Washington, was one of 15 recipients of the 2008 Purpose Prize, an award for social innovators over age 60. Ladner has shifted his focus from computer science theory to developing better technologies for individuals with disabilities. He and his students and colleagues have developed such applications as: WebAnywhere, software to allow the blind to use the internet on the go; MobileASL, an application for the deaf to use video communication on cell phones; and a faster way to translate textbook graphics into Braille for blind students. The Purpose Prize, now in its sixth year, is awarded by Civic Ventures and funded by The Atlantic Philanthropies and the John Templeton Foundation.

To read more about Ladner's work, please see:

<http://www.purposeprize.org/finalists/candidatepage.cfm?candidateid=3408>



CAMPAIGN UW: 2000-2008

Biking for fun, food, and fellowship inspires a Students First endowment

What's not to like about young alumni who work hard, pedal hard, and can point you to the best bakeries in the region? And, they contributed to the Campaign UW pie by establishing a fellowship to support "a starving grad student." It is surely the most creatively named endowment in UW history: The Pastry-PoweredT(ou)ring Machines Endowed Graduate Fellowship in Computer Science & Engineering.

Meet CSE alumni Lauren Bricker (MS '93, PhD '98), Ruben Ortega (MS '94), and Paul Franklin (MS '98). They were among a dozen grad students and alumni who formed a team to ride in the 1995 Seattle to Portland (STP) bike race, with the team name inspired by CSE's Steam-powered Turing Machine mural, painted 30 years ago by a group of graduate students and recreated in the Allen Center.

Many team members continued riding together even as they pedaled off campus and into careers and family life. Bricker and Ortega have sons aged 17 and 9, the younger of whom rode the first half of the STP this year. Ortega, an expert in search technology, worked at Amazon.com for nearly 10 years and is now with the startup Trusera.com. Bricker consults on user interface architecture and teaches and does IT work at Lakeside School. Franklin is a software developer at Amazon.

The three contributed to the Allen Center capital campaign and this year organized a consortium through the bike team to fund a Students First endowment. They made generous lead gifts to enable the 50 percent match in UW funds, and by June 30 contributions had topped \$256,000 with gifts from 11 alumni and friends.



From left: Paul Franklin, Ruben Ortega, and Lauren Bricker. Their shirts, much-admired in the biking community, feature CSE's steam-powered Turing Machine mural on the back. The book *Bakeries by Bicycle* is an essential for training rides, and the team motto is "We live to eat ... we bike to eat more!"



"We got a great education at the UW, which opened the doors to great jobs, so we wanted to give back to CSE," Ortega said. "Creating an endowed fellowship offered a terrific opportunity to do that and the timing was right for all of us," Franklin noted.

"You don't have to be a team member to contribute to the endowment," Bricker said. "Just visit the website to learn more." (<http://pptm.cs.washington.edu>).

Professor Ed Lazowska considers the PPTM Fellowship special for many reasons beyond the support it will provide to students. "Most importantly, it's a team effort led by three alumni who have been active members of the CSE family for a long time," Lazowska said. "I remember playing rollerblade hockey with Lauren 20 years ago, when she was a student. Ruben and Paul have been engaged in numerous ways over many years. From the faculty perspective, students who stay connected as they move on through highly successful lives make our teaching work all the more worthwhile."

Bricker, Ortega, and Franklin plan to give the first fellowship recipient a PPTM team jersey. If the student happens to be a biker, well, that would be ice cream on the pie because he or she could join the group on training rides. By the way, their favorite refueling stops are Alki Bakery and Café and Snohomish Pie Company.

The Campaign for CSE: 2000–2008

\$42 million raised with 250 gifts

- 10 gifts of \$1 million or more
- 30 gifts of \$100,000 or more
- 80 gifts of \$25,000 or more

Scholarship and Fellowship Endowments

- 20 undergraduate funds added to 5 existing funds
\$6 million total endowment generates \$475,000/year
- 17 new graduate funds added to 3 existing funds
\$9.5 million total endowment generates \$475,000/year

Endowed Professorships and Chairs

- 7 new professorships added to 3 existing funds
\$8.25 million in total endowment
- 2 new endowed chairs added to 2 existing funds
\$9 million in total endowment

Innovation Endowment – 150 gifts totalling \$500,000

UW CSE Endowed Funds created since the start of Campaign UW

Undergraduate Student Endowments

2001	Burkhardt Family Endowed Scholarship
2001	Helmut Golde Endowed Scholarship
2001	Jerre Noe Endowed Scholarship
2002	CSE Undergraduate Excellence Endowed Scholarship
2003	James A. Hewitt, Jr., Endowed Scholarship
2004	Glerum Family Endowed Scholarship
2005	Jim Gray Endowed Scholarship
2005	Intelius Endowed Scholarship
2005	Tock Family Endowed Scholarship
2005	Yamasaki Endowed Scholarship
2006	Pedrizetti Family Endowed Scholarship
2007	RealNetworks Endowed Scholarship
2007	David & Cathy Habib Endowed Scholarship
2007	Alfred C. Weaver Endowed Scholarship
2007	Craig & Gretchen Wittenberg Endowed Scholarship
2008	Anderson Family Endowed Scholarship
2008	Gary Kimura Family Endowed Scholarship
2008	Dave Cutler Endowed Scholarship

Graduate Student Endowments

2003	Weil Family Endowed Fellowship
2004	Marilyn Fries Endowed Regental Fellowship
2005	Anne Dinning & Michael Wolf Endowed Regental Fellowship
2005	Faithful Steward Endowed Fellowship
2005	Dora Zee Ling Endowed Fellowship
2005	Jeff Dean & Heidi Hopper Endowed Regental Fellowship
2006	William Chan Endowed Fund
2006	Walker Family ARCS Endowed Fellowship
2007	Three-Sixty Fund Endowed Fellowship
2007	Wilma Bradley Endowed Fellowship
2008	Corin Anderson Endowed Fellowship
2008	Hacherl Endowed Fellowship
2008	Pastry-Powered T(ou)ring Machines Endowed Fellowship
2008	Glerum Family Endowed Fellowship
2008	Wissner-Slivka Endowed Fellowship
2008	Gary Kildall Endowed Fellowship

Mixed Undergraduate & Graduate Student Endowments

2006	Google Alumni Scholars Endowment
2006	Denice Dee Denton Scholars Endowment
2008	Todd Laney Scholars Endowment

Endowed Professorships

2005	Short-Dooley Career Development Endowed Professorship
2005	Torode Family Career Development Endowed Professorship
2006	Jerre D. Noe Endowed Professorship
2008	Richard E. Ladner Endowed Professorship
2008	Jean-Loup Baer Endowed Professorship
2008	Robert E. Dinning Endowed Professorship
2008	Washington Research Foundation Entrepreneurship Endowed Professorship

Endowed Chairs

2001	Warren Francis & Wilma Kolm Bradley Endowed Chair
2004	Wissner-Slivka Endowed Chair

Departmental Endowment

2003	Edward D. Lazowska Endowment for Innovation and Leadership
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Thank you for investing in the future of CSE!



Ann Sauer, Richard Ladner, Carol Dinning, Bob Dinning, Diane Baer, and Jean-Loup Baer celebrate the creation of the Robert E. Dinning Endowed Professorship, the Jean-Loup Baer Endowed Professorship, and the Richard E. Ladner Endowed Professorship.



Oren Etzioni, Ed Lazowska, Ron Howell, Matt O'Donnell, Dan Weld, and Hank Levy celebrate the creation of CSE's recent Washington Research Foundation Entrepreneurship Endowed Professorship.

CSE Celebration



Music was provided by the Wonderland Trio, featuring CSE's Steve Tanimoto (piano), Gary Barnes (bass), and Sheldon White (drums). Ron Howell added the sweet sounds of his saxophone.



CSE 2.0 - the next generation



Attendees walked through the Allen Center to visit featured labs and to enjoy the collection of UW-related art.

msb p8

most significant bits

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