



NEWSLETTER

Fall 2008

Welcome

We have several new faculty members in the Computer Science Department this year! Assistant professor **Orit Shaer**, the recipient of the Claire Booth Luce Professorship, comes to us from Tufts University, where she recently earned her Ph.D. in Computer Science. Her research in Human-Computer Interaction (HCI) focuses on developing interaction techniques and software tools for next generation user interfaces. She will be teaching a new CS249 topics course in her research area in the spring : *Human Computer Interaction*.



Kevin Gold is our new Hess Fellow and visiting assistant professor. Kevin received his Ph.D. from Yale University in 2008. His research and publications have been in the area of linguistics, artificial intelligence, and robotics. He is passionate about science, and enjoys reading really good novels, playing geeky games, and listening to funny, clever music. This Fall he taught CS232 *Artificial Intelligence* and next Spring he is teaching a new CS349 topics course *Research Methods for Developing Robotics*.



We are also welcoming **Eni Mustafaraj**. Eni completed her Ph.D. at the University of Marburg, in Germany, last year, and she is a Visiting Scholar at Wellesley. Her research is in natural language processing, information retrieval, web search, machine learning, and case-based reasoning. She is helping Takis teach a new CS349 topics course, *Web Search and Mining*, this semester and conducts research on the effect of the Web on the 2008 congressional elections.



New Additions

The CS department has also expanded its ranks in the juvenile category! **Scott Anderson** and Holly are happy to announce the arrival on August 8, 2008 of Charlotte Jane Anderson. Charlotte has a older brother, Ross, and Scott is proud to be the first member of the department (where single sex offspring had been the previous rule) to produce a child of

Upcoming Event! Cirque du CS

Saturday, February 28, 2009

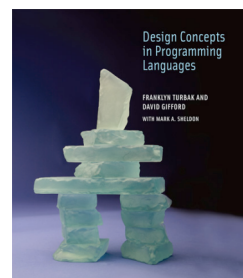
each gender. Scott is on leave caring for Charlotte this semester, although he is still managing to keep up with his system administration duties for the department, in between naps and diaper changes.



In September, **Brian Tjaden** and Katey Connaghan welcomed their newly adopted daughter, Julia Minji Connaghan Tjaden, into their family. She joined an excited big brother Jacob at home, which eliminated Scott's short-lived distinction as only CS faculty member with both male and female children. Julia will be celebrating her first birthday on December 18, 2008.



Orit Shaer and Nitzan were thrilled to announce the birth of their son, Daniel Ziv Shaer. He was born on Saturday, September 20th. Daniel is the second son in his family (brother Ben is four years old). Orit is on leave this semester with the new baby, but is looking forward to teaching in the spring.



Another new arrival is *Design Concepts in Programming Languages*, a textbook published by MIT Press over the summer. The proud parents are **Lyn Turbak**, **Mark Sheldon**, and David Gifford (MIT). They don't want to brag, but they note that their baby weighed nearly as much as other department babies, and had the longest gestation period by far!

Faculty Notes

The big faculty news is that **Brian Tjaden** received tenure in December! Congratulations, Brian – we're so happy you'll be with us for the long haul. Brian was also featured in the Summer 2008 issue of Wellesley magazine, in an article "Outside the Box", on inter-disciplinary scientific research.

Randy Shull returned from his sabbatical in the fall, and has assumed the position of CS chair. **Ellen Hildreth** is now on sabbatical.

Takis Metaxas won the Best Paper Award at the WEBIST 2008 Conference at Madeira, Portugal, in May, presenting a paper entitled *Coverage and Independence: Defining Quality in Web Search Results*. At the Tanner Conference this fall, he also joined five Political Scientists in a roundtable discussion on *History in the Making: Elections 2008*, in which he presented preliminary results on the effect of the Web on the 2008 congressional elections. This is joint work with **Eni Mustafaraj** and **Rebecca Graber '11**. They are measuring how bloggers are trying to influence search engine results related to the 2008 elections. Google-bombs are just one of the ways that this was reported happening in 2006. If you want to know more, send him an email!

Takis and Eni have received an Educational Research and Development (ERD) grant to develop a new introductory CS course focusing on web-based information and communication, including social networks.

Orit Shaer will be attending the ACM CHI conference that will be held in Boston in the spring. She will present two workshop papers at the Whole-Body Interaction workshop and at the Organic User Interfaces workshop. Also, Orit and Lyn have received an ERD grant to explore using mobile devices in our CS curriculum.

This Fall, we were delighted that **Jennifer Stephan** and **Mark Sheldon** were each able to spend one more semester teaching in our department. This academic year, Jennifer is also a Class Dean for half of the class of 2011. Mark will be teaching at Olin College in the Spring. **Daniel Bilal**, our former Hess Fellow, is now an Assistant Professor of Computer Science at the University of New Orleans.

Department Notes

Our department has teamed up with the National Center for Women and Information Technology (NCWIT, www.ncwit.org) an organization aiming to increase the number of women in information technology, and is conducting a review of our enrollment trends and reasons for choosing the CS and MAS majors over the years. The organization's consultant, Prof. Wendy Cohn from the University of Virginia, visited us in December and talked to faculty and students. If you would like to be included in the interview process, please e-mail Takis.

In the Spring, our department will be preparing materials for our Visiting Committee visit in Fall '09. Part of the initial planning includes a curriculum review, a departmental self-study, and visits to other CS programs. As part of our self-study, we would love to hear any feedback that students and alums may have about the department, especially our curriculum.

Jobs, Internships, and Study Abroad

During the past year, many CS and MAS students had jobs, internships, or off-campus academic experiences.

Several of these were the topics of presentations at the Tanner Conference on October 28. Six seniors participated in the panel *Academia or Industry: Exploring Internships in Computer Science*. **Paola Boettner** spoke about her summer REU internship at Florida International University, where she did research on autonomic systems. **Rhea Dookeran** compared her summer job at FreeCause, a small Boston-area startup, with working at Lehman Brothers the previous summer. **Catherine Grevet** spoke about her internship at Carnegie Mellon's Human Computer Interaction Institute, which was part of the the CRA-W Distributed Mentor project. **Kate Lopez** talked about her summer REU internship at DePauw University, where she developed multimedia libraries for the Scala programming language, and compared this experience with her industry job the previous summer. **Cassie McLeod** described what it was like to work in information services at Cargill in Minnesota during the past two summers. **Sarah Beth Shiplett** gave a presentation about the robotics research projects she pursued at Olin College over the summer.

Two other students had Tanner presentations. In *Rethinking Volunteerism*, **Michelle Wong '10** compared her volunteer experiences in rural China and at an English immersion program in Hong Kong. **Zandile "Zaza" Kabayadondo '10** gave a presentation, *The Land Down Under: More than Beer and Barbecues*, based on her Spring semester abroad at the University of Melbourne, where she took graduate-level Media Studies classes and studied with a famous Indigenous Rights Activist. Her time in Australia helped her understand how digital media, online networks, and film were avenues to engaging in Australia's contemporary problems, allowing open discussion of social turmoil and proposals for racial reconciliation.

Many other students had summer jobs or internships. **Ayla Solomon '09** did an REU project at SUNY Binghamton on the analysis of Administrative Role Based Access Control (ARBAC) security policies. **Kristen Taylor '09** spent the summer at Inuit in Waltham working on their QuickBase product, and will be joining the company after she graduates in December. **Allison Petrosino '10** participated in the Medix REU program at DePaul university, where she developed machine-learning algorithms for liver segmentation using enhanced CT images. **Geetha Wunnava '10** worked with a government-related firm learning about the Map-Reduce algorithm. **Lili Shi '10** worked for Wellesley IS. **Lia Napolitano '10** worked at the Natick Collection Apple Store while taking classes at Wellesley and Harvard.

Christina Hamada '09 was as intern at the Los Alamos National Laboratory, where she built two simulation applications in a Java-based discrete-event agent-based simulation environment. One of these applications was a world model of electric power generation and demand that used a database of country power information as a means of predicting the level of carbon emissions that would result from various policy decisions.

Andrea Johnston '09 worked as a student researcher at Wellesley in Prof. Radhakrishnan's computational chemistry lab. She worked on computational methods for designing drug cocktails using mathematical optimization. She also served as a systems administrator for the lab's Linux-based computer cluster.

Kathryn Neugent '10 worked as a consulting intern at Booz Allen Hamilton on their Modeling, Simulation, Wargaming and Analysis Team. She helped develop a questionnaire tool for the United States Navy using Microsoft Access, Visual Basic, and SQL programming, but also did some Java programming while working on a GUI for the Air Force.

Tasha Kellaway '10 did an REU with the UMass Amherst Computer Science Department, where she worked on an ongoing research project for automatically creating a suite of tools (assembler, decoder, compiler, GUI) from a description of a computer architecture. Using the Java Swing graphics package, she created a program to generate a GUI for viewing and manipulating components like memory and registers. Tasha also did some work as a web consultant/programmer at NIOST (National Institute on Out-Of-School Time).

Cidney Hamilton '10 is involved in an ongoing project on type-based Java program optimization in with Lyn, Mark, and **Elena Machkasova** (former lab instructor in our department, now a CS professor at the University of Minnesota, Morris).

A student who is currently studying abroad is **Monet Spells '10**. She has spent the past six months in Salvador and São Paulo, Brazil where she is learning Portuguese, tutoring computer programming, and studying Brazilian history, urban art forms, and culture.

If you're a CS or MAS student interested in an internship for next summer, now is a good time to start looking. Most programs have deadlines in February and March. Some good places to start your search are the NSF CS REU program (<http://www.nsf.gov/crssprgm/reu/>), the CRA Distributed Mentor Project (<http://www.cra.org/Activities/craw/dmp/>), and our department website's "Beyond Wellesley" page (<http://cs.wellesley.edu/~cs/Beyond/beyond.html>). If you're interested in a computer security internship, contact **Scout Sinclair '04** (sinclair at cs.dartmouth.edu) about the Secure Information Systems Mentoring and Training (SISMAT, <http://www.cs.dartmouth.edu/~sismat/>) program that she helped to develop at Dartmouth.

Student Research Projects

Several of our students presented in April's Ruhlman Conference. **Oly Fernando '08** presented her research on *Catching Balls: What Visual Cues Are Used to Judge the 3-D Trajectory of a Moving Object?*. **Sarah Beth Shiplett '09** spoke about *Engineering Experiences: Cross-registration at Olin College*. **Katherine Neugent '10** was part of a panel discussing *The Quest to Count More Photons: Studying the Universe with Wellesley's 24-inch Telescope*.

This year we have six seniors working on an Honors Thesis. **Ayla Solomon** is designing and implementing a language that makes it easier for system administrators to specify security

policies for users. **Catherine Grevet** is leveraging the power of social networks to improve people's motivation and success in their environmentally conscious actions. She has designed displays that show a user's personal success but also emphasizes the importance of collective effort and how each user contributes to the whole. **Amy Dai** is working on a thesis that incorporates aspects of both of her majors (Computer Science and Biochemistry). She has developed and implemented a novel computational algorithm for identifying the regulatory targets of certain RNA genes in bacterial genomes. She is evaluating the performance of her algorithm in the laboratory using a series of biochemical experiments.

For her MAS thesis project, **Chloe Fan** is experimenting with using Wii remotes to control a collaborative art application. **Ariel Hathaway** is studying whether drag-and-drop graphical programming language environments (like Alice), where program syntax is not explicitly covered, might make it more difficult to transition to an industry-standard programming language like Java. **Ran Tao** is translating the Chinese mythologies of her childhood into modern times. Her goal is to have others perceive these experiences as something familiar and natural as memories that they would have had as children, rather than ones of a distinctively different culture. She is working on an exhibition containing memorabilia from these memories, in the form of movie posters, murals, wallpaper pattern, and three-dimensional statues and toys.

Student Honors

Sarah Beth Shiplett '09 has been accepted into Phi Beta Kappa. Sarah was also featured in the Winter 2008 issue of Wellesley magazine, which talked about the Olin-Wellesley collaboration for engineering education. Sarah is one of the first Wellesley students to pursue an Olin certificate in mechanical engineering.

Alumni News

Lily Lee '93 works for the MIT Lincoln Laboratory and was on the Wellesley campus on October recruiting for summer interns and full-time positions.

Yin Cheung '99 (formerly known as **Yan Zhang**) is in law school at the University of Washington, where she is studying intellectual property law. Her son is now two years old.

Catherine Dodge '00 is working on malware analysis and computer network exploitation at a three-letter agency in the DC area and would be happy to be in touch with any former or current CS students wondering what the job market is like there. She is also the proud new mom of a baby girl, Frances Mary (born over the summer), who is "partly named after Frances Allen, winner of the 2006 Turing Award, which hopefully means a future as a good little geek."

Tim Chevalier '01 is in the Ph.D. program in CS at Portland State University, where he is working on garbage collection and functional programming. He also helped to organize this year's programming contest for the International Conference in Functional Programming.

Betsy Masiello '03 has joined Google as an Economics Analyst. She loves her job, which includes search-term trend analysis, such as this piece on the Vice Presidential debates: <http://googleblog.blogspot.com/2008/10/vp-debate-candidates-questions-and.html>.

Scout Sinclair '04 is in the Ph.D. program in CS at Dartmouth. Her research focuses on the intersection between human factors and secure computer systems. Scout recently helped to organize the first workshop on *Insider Attack and Cyber Security: Beyond the Hacker* and was a co-editor of book by the same name based on this workshop.

Kristine Amari '05 is doing computer security work for the government, including wireless security, forensics, penetration testing, and reverse engineering malware. Last Spring, she did six weeks of work in Afghanistan and Qatar (where the temperature was 138 degrees in the shade!).

Torlissa Jeffries '06 and **Karin To '06** are both surviving the Wall Street drama. Luckily, Barclays bought out the US arm of their former employer, Lehman Brothers, so they are employees of Barclays Capital now. **Gowun Kim '06** is also fine; she is still at Morgan Stanley.

Rebecca Shapiro '07 is wrapping up her Masters degree in computer security at Johns Hopkins. **Hitomo Yoneya '07** is working at Credit Suisse Tokyo. **Vasumathi Raman '07** is studying zero-knowledge proofs in the Cornell Ph.D. program. **Eylul Dogruel** is in the CS Ph.D. program at the University of Maryland. **Shaheli Gula '07** is a product manager at Big Machines. **Anita Yip '07** has been working for Eze Castle, a financial software company in Boston.



On Labor Day weekend, the CS class of '07 held a mini-reunion at the college. The shindig, organized by **Rebecca Shapiro '07** and **Shaheli Gula '07**, was held on the lawn in front of the Science Center next to the new sculpture and featured conversation, food, and many games of Set.

Attendees included **Scott Anderson** and family, **Agnes Chang '07**, **Miranda Dobbs '10**, **Eylul Dogruel '07**, **Christina Hamada '09**, **Cidney Hamilton '10**, **Julia Hardy '10**, **Sohie Lee**, **Rita Purcell**, **Sondy Springman '07**, **Eddie Stumpf '09**, **Lili Shi '10**, **Brian Tjaden**, **Lyn Turbak**, **Jackie Weber '07**, **Nicole Yabut '07**, and **Anita Yip '07**.

Congratulations to our alums who have recently entered graduate programs: **Caroline Chou '06** (M.Arch. program at RISD), **Agnes Chang '07** (MIT Media Lab), **Justine Aylmer '06** and **Jackie Weber '07** (both now in the HCI program at CMU), and **Sarah LaFrance '08** (UC Davis).

Talks

We had a number of talks last Spring by CS faculty candidates. **Dr. Leah Buechley** of the University of Colorado at Boulder gave a talk on *Computational Textiles as Handcrafted*

Personal Computers. **Shubha Nabar**, a Ph.D. candidate at Stanford, spoke on *Models and Algorithms for Data Privacy*. **Orit Shaer**, a Ph.D. candidate at Tufts University, presented her research on *Designing and Programming Next Generation User Interfaces*. **Audrey Lee '03**, a Ph.D. candidate at UMass Amherst, talked about *Geometric Constraint Systems and Pebble Game Algorithms*. **Dr. Kevin Gold** from Yale presented *Robotic Models of Self-Recognition and Word Learning*.

Several senior seminars were held in March and April, including *Interactive Web Components with OpenLaszlo*, by **Ariel Katz '08**, *How I Spent My Summer Vacation: An Introduction to Foreign Exchange Trading, the CLS Bank and the SWIFT Messaging System*, by **Marielle Moore '08**, and a presentation on *Web Spamming*, by **Habiya Beg '08**. Also presenting were **Sarah LaFrance '08**, *John Conway's Game of Life*, **Meg Kierstad '08**, *Using Virtualization: Protection, Redundancy, and Abstraction through Encapsulation*, and **Lauren Benson '08**, *The Reality of Real ID*.

Senior seminars continued in November, when **Cassie McLeod '09** talked about her Cargill internships in *Computer Science and IT in Big Business* and **Sarah Beth Shiplett '09** presented her Olin robotics research in *Graphical Programming and Computer Vision for Autonomous Vehicles*. In December, **Paola Boettner '09**, described her summer research, *Autonomic Computing: Modeling Communication Services*, **Christina Hamada '09** presented her summer research on *Agent-Based Modeling: HobbitWorld and World Energy*, and **Kristen Taylor '09** gave a talk, *Electronic Voting*, in which she summarized the many vulnerabilities of current electronic voting machines.

Our CS Colloquium Series, organized by **Stella Kakavouli**, had three speakers this fall. In October, **Dr. Elizabeth Bradley**, from the Computer Science Department at the University of Colorado at Boulder, gave a talk on *Computers, Chaos, and Choreography*. In November, **Dr. Seth Lloyd**, Professor of Quantum-Mechanical Engineering and Director of the W.M. Keck Center for Extreme Quantum Information at MIT presented *Surfing the Quantum Internet*, in a joint colloquium with the Computer Science and Physics departments. In December, **Michail Bletsas**, Vice President of Advanced Technology and Connectivity for One Laptop per Child (OLPC) spoke about the OLPC project.

Other Department Events

In April, **Catherine Grevet '09** and **Sarah Shiplett '09** organized a meeting to discuss forming a new Women in Technology student group. CS professors **Ellen Hildreth**, **Jean Herbst**, and **Stella Kakavouli**, shared their experiences, followed by a discussion of the issues facing women in the high tech field. Also in April, we welcomed current and potential majors and minors to an Open House event and luncheon.

In May, the department honored our '08 CS and MAS graduates at our annual luncheon at the College Club.

In October, our ACM programming contest team (**Ayla Solomon '09**, **Lili Shi '10**, and **Kelly Pendergast '10**) traveled to Brown with Lyn for this year's contest. We're looking for

new team members and will be holding monthly practice sessions in the Spring to prepare for the Spring CCSCNE contest and next Fall's ACM contest. Contact Lyn if you'd like to join us.



WAC sponsored a **Video Game Night** last April and two more this Fall (one in September and another in November). A good time was had by all. It seems that many of our students are using Guitar Hero to relieve stress!

We celebrated the end of this Fall semester at our annual **Holiday Party** at Lake House. This year's party featured a scavenger hunt, trivia games, Greek food for dinner, Lyn cookies for dessert, and a cake to celebrate Brian's tenure. Although the weather was messy for this party, it was much more forgiving than last year, when Mother Nature saw fit to dump a couple feet of snow on the day of the party.

The Cirque Returns!

The 4th **Cirque du CS**, the Computer Science department open house and showcase for student work and projects, will be held on Saturday, February 28, 2009. Look for demos of

robotics, games, animations, web pages, research, and independent study projects. The Cirque also provides a festive atmosphere, tasty food, and networking opportunities with current faculty and visiting alums.

This year, the Cirque will also feature an **Alumnae Panel** and dinner as part of the event. The projects will be exhibited from 1-3 pm followed by an alum panel from 3:30-5 pm and then dinner for all will immediately follow after the panel. If you're an alum who's interested in participating in the panel, please contact Jean Herbst at jherbst@wellesley.edu.

Keep in Touch!

Recently, we set up a Wellesley CS and MAS group on the LinkedIn social network. It's a great way for current students, alums, and faculty to stay in touch, get to know each other, and have discussions about our department and our discipline. Join us at: <http://www.linkedin.com/e/gis/1067337>.

Finally, don't forget to visit <http://cs.wellesley.edu>, to learn more about what's going on in the department, and contact us anytime by emailing Randy Shull at rshull@cs.wellesley.edu.