

Erika Shehan Poole

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Research Interests

My research investigates how and why people with established offline relationships use online technologies to collaborate and connect with one another. My dissertation research examines collaboration involved with the maintenance of home computing infrastructures. Unlike in workplaces, when things go awry with technology at home, there are no technical support departments and no systems administrators available for consultation. In fact, there is not even a guarantee that there is a technologically sophisticated person within the home. My work contributes to our understanding of how and why householders engage with professional technical support, online communities, as well as people within their social networks to coordinate to solve complex technology problems at home. For the final portion of my dissertation, I am building and deploying Tech Clips, an application that allows people to share technology advice with members of their social network. I also have ongoing research interests in technologies that leverage social support for long-term behavior change, technologies for wellness, HCI research methods, and public policy as it relates to computing.

Education

Georgia Institute of Technology, Atlanta, GA, USA

PhD, Human-Centered Computing – *August 2004-present (anticipated May 2010)*

- Dissertation Title: *Supporting Collaborative Communication About Information Technologies In Residential Settings*
- Thesis Committee: Dr. Keith Edwards (advisor), Dr. Gregory Abowd, Dr. Rebecca Grinter, Dr. Mark Guzdial, Dr. Ellen Zegura, Dr. Michael Twidale (external)
- Doctoral minor in science and technology policy

MS, Computer Science – *degree conferred May 2008*

- Specialization in human-computer interaction
- MS project: *RFID and Privacy – Technical, Human Factors, and Policy Considerations*
- Advising professor: Dr. Keith Edwards

Purdue University, West Lafayette, IN, USA

BS, Computer Science Honors – *degree conferred May 2004*

- Minors in history and mathematics

University of Western Australia, Perth, Australia

Undergraduate Exchange Student – *February-June 2002*

Research and Professional Experience

Graduate Research Assistant, *Georgia Institute of Technology (March 2009-present)*

Research assistant for Dr. Elizabeth Mynatt and Dr. Richard Catrambone. Conducting joint research with Humana Innovations evaluating interactive technologies that leverage social support to encourage long-term behavioral changes.

Research Intern, *Microsoft Research (May-August 2008)*

Researched emerging uses of workplace collaboration software with Dr. Jonathan Grudin.

Technology Intern, *US Department of Homeland Security (May-August 2006)*

Intern at the DHS Privacy Office. Provided guidance on privacy implications of RFID and biometric technologies to the US Department of Homeland Security.

Graduate Research Assistant, Georgia Institute of Technology (May 2005-August 2005)
Research assistant for Dr. Rebecca Grinter. Conducted study about online trust.

Graduate Research Assistant, Georgia Institute of Technology (August-December 2004)
Research assistant for Dr. Janet Kolodner. Developed activities for use in the Kitchen Science Investigators educational technology program.

Research Intern, Sandia National Laboratories (May-August 2004)
Intern at the Center for Cyber Defenders. Developed experimental network security software and participated in vulnerability assessments of internal-use computer networks.

Security Analyst, IT@Purdue (ITaP) (January-May 2004)
Wrote security policy documents and developed software for use by the Security and Privacy Division at ITaP.

Engineering Intern, Motorola (May-August 2003)
Intern for the Private Network Management Group. Developed a testing suite to collect network management performance data for public safety radio systems.

Programmer, Center for Education and Research in Information Assurance and Security (CERIAS), Purdue University (August 2002-May 2003, August 2000-February 2002)
Developed web-based computer security tools and website content using PHP, Perl, HTML, MySQL, and Visual Basic, audited scripts written by other team members, and participated in formal technical reviews.

Technical Services Supervisor, SchlumbergerSema, (December 2001-February 2002)
Intern at the 2002 Winter Olympics in Salt Lake City, UT. Responsible for the daily operations of computer technology at an Olympics venue, resolved various hardware, software, and network issues, managed venue IT helpdesk and team of technicians.

Teaching Experience

Graduate Teaching Assistant, Georgia Institute of Technology
CS 3750: User Interface Design – Team-taught class with Dr. Jim Foley during the Georgia Tech Barcelona Study Abroad Program (Summer 2007)

CS 4001: Computing and Society – Assisted Dr. Jim Foley and Dr. Ellen Zegura with various tasks including grading assignments and consulting one-on-one with students attending the Georgia Tech Barcelona Study Abroad Program (Summer 2007)

CS 3911: Senior Design Project – Assisted Dr. Robert Waters with various tasks including grading assignments and consulting one-on-one with students (January-May 2005)

Undergraduate Teaching Assistant, Purdue University
CS 192: Freshman Resources Seminar: Taught a recitation of 25 college freshmen; helped develop recitation and overall course content (Fall semesters, 2001-2003)

Conference Full Papers

(Note: research also published under maiden name Shehan)

- [c.8] Yardi, Sarita and [Erika S. Poole](#). Please Help! Patterns of Participation in Online Tech Support Boards. *To appear at Communities & Technologies 2009, June 25-27, 2009.*
- [c.7] [Poole, Erika S.](#), Chetty, Marshini, Morgan, Thomas M., Grinter, Rebecca, E. and W. Keith Edwards. Computer Help at Home: Methods and Motivations for Informal Technical Support. *Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI 2009)*. Boston, Massachusetts, USA, April 5-April 9, 2009. (25% acceptance rate)
- [c.6] Le Dantec, Christopher A., [Poole, Erika S.](#), and Susan P. Wyche. Values as Lived Experience: Evolving Value Sensitive Design in Support of Value Discovery. *Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI 2009)*. Boston, Massachusetts, USA, April 5-April 9, 2009 (25% acceptance rate).

- [c.5] Poole, Erika S., LeDantec, Christopher A., Eagan, James, and W. Keith Edwards. Reflecting on the Invisible: Understanding End-User Perceptions of Ubiquitous Computing. *Proceedings of Ubicomp 2008*, Seoul, Korea, September 21-24, 2008 (19% acceptance rate).
- [c.4] Poole, Erika S., Chetty, Marshini, Grinter, Rebecca E., and W. Keith Edwards. More Than Meets the Eye: Transforming the User Experience of Home Network Management. *Proceedings of Designing Interactive Systems (DIS 2008)*, Cape Town, South Africa, February 25-27, 2008 (34% acceptance rate).
- [c.3] Deyle, Travis, Palinko, Szabolcs, Poole, Erika S., and Thad Starner. Hambone: A Bio-Acoustic Gesture Interface. *Proceedings of the 11th IEEE International Symposium on Wearable Computers (ISWC 2007)*, Boston, MA, USA, October 11-13, 2007. **(17.5 % acceptance rate; Nominated for best paper award)**
- [c.2] Edwards, W. Keith, Poole, Erika S. and Jennifer Stoll. Security Automation Considered Harmful? *Proceedings of the 2007 New Security Paradigms Workshop (NSPW 2007)*, North Conway, NH, USA, September 18-21, 2007 (40.7% acceptance rate).
- [c.1] Shehan, Erika and W. Keith Edwards. Home Networking and HCI: What Hath God Wrought? *Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI 2007)*. San Jose, California, USA, April 28-May 3, 2007 (25% acceptance rate).

Journals and Scientific Magazines

- [j.3] Grinter, Rebecca, E., Edwards, W. Keith, Chetty, Marshini, Poole, Erika S., Sung, Ja-Young, Yang, Jeonghwa, Crabtree, Andrew, Tolmie, Peter, Rodden, Tom, Greenhalgh, Chris, and Steve Benford. The Ins and Outs of Home Networking: The Case for Usable and Useful Domestic Networking. *ACM Transactions on Computer-Human Interaction (ToCHI)* (in press)
- [j.2] Poole, Erika S., Edwards, W. Keith, and Lawrence Jarvis. "The Home Network as a Socio-Technical System: Understanding the Challenges of Remote Home Network Problem Diagnosis." *Journal of Computer-Supported Cooperative Work*. Vol. 18, No. 3, June 2009.
- [j.1] Hayes, Gillian R., Poole, Erika S., Iachello, Giovanni, Grimes, Andrea E., Patel, Shwetak, Truong, Khai, and Gregory D. Abowd. The Impact of Physical, Social, and Cultural Cues on Perceptions of Privacy and Security in a Ubicomp Environment. *IEEE Pervasive (Special Issue on Security and Privacy)*, October 2007.

Doctoral Colloquia, Posters, and Videos

- [d.6] Poole, Erika S. Improving the User Experience of Information Technologies in Residential Settings. *To appear in the PhD Forum at the 2009 Grace Hopper Celebration of Women in Computing*. September 30-October 2, 2009, Tucson, AZ, USA.
- [d.5] Poole, Erika S. Taming Digital Complexity at Home: Understanding and Supporting Technology Help By and For People You Know. *To appear at the Communities & Technologies 2009 Doctoral Consortium*, June 24, 2009.
- [d.4] Bernstein, Michael, André, Paul, Luther, Kurt, Solovey, Erin T., Poole, Erika S., Paul, Sharoda, A., Kane, Shaun K., and Jonathan Grudin. CHIstory. *Video Showcase at the ACM Conference on Human Factors in Computing Systems (CHI 2009)*, April 4-9, 2009, Boston, MA, USA.
- [d.3] Poole, Erika S. When Computing at Home Doesn't Compute: Supporting Home Network Setup and Maintenance Activities. *Doctoral Consortium at the ACM Conference on Computer Supported Cooperative Work (CSCW 2008)*. November 7-8, 2008, San Diego, CA, USA.
- [d.2] Poole, Erika S. Using Visual Tools to Close the Home Networking Digital Divide. *Graduate Consortium of the IEEE Symposium on Visual Languages and Human-Centric Computing*, September 23, 2007, Coeur d'Alène, ID, USA.
- [d.1] Shehan, Erika, and W. Keith Edwards. Making the Invisible Visible: Interactive Visualization for Home Network Troubleshooting. *Poster for the 2006 Grace Hopper Celebration of Women in Computing*, October 4-7, 2006, San Diego, CA, USA.

Presentations

- [p.4] Shehan, Erika and W. Keith Edwards. Home Networking and HCI: What Hath God Wrought? *Presentation for the Georgia Tech GVVU Brownbag*, April 5, 2007, Atlanta, GA, USA.
- [p.3] Goyal, Shivam and Erika Shehan. Sketching to See: Using Sketch Analysis to Design Interactive Visualizations for Home Network Troubleshooting. *Presentation for the 2006 CHI Atlanta Student Research Competition*, November 9, 2006, Atlanta, GA, USA.
- [p.2] Shehan, Erika. Tinfoil Hats and Terrorism: Privacy, Technology, and the US Department of Homeland Security. *Presentation for the US Department of Homeland Security Science and Technology Directorate*, July 22, 2006, Washington, DC, USA.
- [p.1] Shehan, Erika, Finkler, Ed, and Pascal Meunier. *Matching Faculty, Students, and Industry for Grants, Internships, Assistantships, Fellowships, and other opportunities with the CERIAS INFORMS system*. *Presentation for the 4th Annual CERIAS Security Symposium, April 23, 2003, West Lafayette, IN, USA*.

Workshops and SIGs Organized

- [o.2] Bos, Nathan, Karahalios, Karrie, Musgrove-Chavez, Marcela, Poole, Erika S., Thomas, John C., and Sarita Yardi. Research Ethics in the Facebook Era: Privacy, Anonymity, and Oversight. *Extended Abstracts of the ACM Conference on Human Factors in Computing Systems (CHI 2009)*. Boston, Massachusetts, USA, April 5-April 9, 2009.
- [o.1] Egelman, Serge, King, Jen, Miller, Robert C., Ragouzis, Nick, and Erika Shehan. Security User Studies: Methodologies and Best Practices. *Extended abstracts of the ACM Conference on Human Factors in Computing Systems (CHI 2007)*. San Jose, California, USA, April 28, 2007.

Workshop Position Papers

- [w.2] Le Dantec, Christopher. A. and Erika S. Poole. The Value of Pictures: Photo Elicitation Techniques for Value Sensitive Design. *Position paper for the workshop on Values, Value, and Worth at the ACM Conference on Human Factors in Computing Systems (CHI 2008)*, Florence, Italy, April 5, 2008.
- [w.1] Shehan, Erika, Goyal, Shivam, and W. Keith Edwards. Pinning the Tail on the Networked Donkey: Why IT@Home Needs Network Visualization. *Position paper for the workshop on IT@Home at the ACM Conference on Human Factors in Computing Systems (CHI 2006)*, Montreal, Quebec, Canada, April 23, 2006.

Students Supervised

- Justin Buford - BS computer science (Morehouse College)
Participant in Intel Opportunity Scholars program. Project focused on alternative interaction techniques for home network management
- Catie Donnelly - BS computer science (Georgia Tech)
Participant in Intel Opportunity Scholars program. Project focused on prototyping aesthetically pleasing home network hardware with ambient displays. Recipient of Georgia Tech Undergraduate Research Opportunities in Computing (UROC) people's choice award for this project.
- Jeremy Duvall - BS computer science (Georgia Tech), now a graduate student at Georgia Tech
Project focused on router-based anti-phishing detection. Recipient of Georgia Tech President's Undergraduate Research Award (PURA)
- Lawrence Jarvis - BS computer science (Georgia Tech)
Participant in Intel Opportunity Scholars program; project focused on phone-based and instant messenger-based computer help. Recipient of Intel Scholars research competition 1st place award, work resulted in publication [j.2]
- Jon Keyser - BS computer science (Georgia Tech)
Project focused on prototyping aesthetically pleasing home network hardware with ambient displays. Recipient of Georgia Tech Undergraduate Research Opportunities in Computing (UROC) people's choice award for this project.
- Tom Morgan - BS computer science (Georgia Tech)

Assisted with several projects, including data collection and analysis for a study of informal technical support practices, currently prototyping visualization interfaces for home network infrastructures. Work resulted in publication [r.3]

- Chris Sladky - BS computer science (Georgia Tech)
Project focused on phone-based technical support.
- Sarah Tursell - BS computer science (Georgia Tech)
Project focused on router-based anti-phishing detection.

Campus and Community Activities

- Group Fitness Instructor - Georgia Tech Campus Recreation Center (2008-present)
- Personal Trainer - Georgia Tech Campus Recreation Center (2008-present)
- Research Mentor - Intel Opportunity Scholars Program (2006-present)
- Member - Toastmasters International - District 14 Club No. 4218 (2006-present)
- Vice President of Education – Toastmasters International – District 14 Club No 4218 (2008-2009)
- Member - Women @ CC, Georgia Tech College of Computing Women's Organization (2004-present)
- Mentor - Women @ CC Big/Little Sisters Program (2005–2007)

Professional Memberships

- ACM
- ACM SIGCHI
- IEEE

Service

- Paper Reviewer - ACM CHI 2006-2009, CSCW 2008, Ubicomp 2008
- Student Volunteer - Ubicomp 2006/2008, UIST 2008, 2008 NSF NetSE workshop on societal values and networks
- Associate Chair - ACM CHI 2009 Work in Progress Committee
- Student Representative - Georgia Tech Faculty Hiring Committee (2009)
- Student Member - Georgia Tech Institutional Review Board (2007-present)
- Member - ACM US Public Policy Committee (2006-present); USACM subcommittee on law and technology (2009-present); USACM subcommittee on usability and accessibility (2009-present)

Awards and Honors

- Invited speaker at the 2009 UW/Microsoft Research Summer Institute on “Unraveling the Technological Knot In Homes” (July 2009)
- Invited to participate in the 2009 Consortium for the Science of Socio-Technical Systems Summer Research Institute (June 2009)
- Finalist, GVVU Center Foley Scholars competition (October 2008)
Awarded to graduate students at the Georgia Tech GVVU center for research excellence
- Participated in invitation-only NSF student workshop on Values in Design (August 2008)
This weeklong intensive workshop focused on interdisciplinary investigation of individual and societal values in the design and deployment of information and communication technologies.
- Named a “leading woman in science and technology policy” at politicsanew.com (July 2008)
- Google Anita Borg Scholarship (2008-2009)
\$10,000 scholarship awarded to promising female students in computing fields
- Georgia Tech Presidential Fellowship (2007-present)
\$5,500 a year award for top graduate students at the Georgia Institute of Technology

- Winner - 2006 CHI Atlanta Student Research Competition (November 2006)
\$500 award for research excellence
- Sam Nunn Security Program Pre-Doctoral Fellowship (2006-2007)
Selected as one of 10 graduate students to participate in intensive year-long training program focused on education and research in international security and policy issues. Work resulted in publication [c.2]. Received \$6000 travel stipend as part of program.
- US Department of Homeland Security Fellowship (2005-2007)
Full-tuition fellowship, \$27,500 yearly stipend, and summer internship at a federal agency awarded to graduate students studying subjects relevant to US national security. Work begun during summer internship resulted in publication [c.5] and presentation [p.2].
- National Science Foundation Graduate Fellowship (awarded in 2005, deferred to 2007-2010)
Full-tuition fellowship plus \$30,000 yearly stipend awarded to promising graduate student researchers
- Honorable Mention, Computing Research Association Outstanding Undergraduate Award (2003)
National award for computer science undergraduate students focused on academic and research excellence.
- Harris Corporation Scholarship (2002)
\$500 scholarship awarded to a Purdue University computer science undergraduate for academic excellence
- Lockheed Martin Scholarship (2001, 2003)
\$1000 scholarship awarded to a Purdue University computer science undergraduate for academic excellence
- Purdue Computer Science Undergraduate Scholarship (2000-2004)
Full-tuition scholarship awarded for academic excellence
- IBM Thomas J. Watson Memorial Scholarship (2000-2004)
\$5500/year scholarship awarded for academic excellence
- Named Most Outstanding Incoming Student by Purdue CS department (Spring 2000)
- Dean's List each full-time semester at Purdue University
- Member of Phi Beta Kappa