

# Andrew D Miller, PhD

Assistant Professor, Human Centered Computing Department  
School of Informatics and Computing  
Indiana University Purdue University Indianapolis (IUPUI)

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## Contact Information

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## Education

### **National Library of Medicine Postdoctoral Research Trainee** 2014-2016

Biomedical and Health Informatics  
University of Washington, Seattle WA  
Advisor: Wanda Pratt

### **Ph.D. Human-Centered Computing** 2008-2014

Georgia Institute of Technology, Atlanta, GA  
Dissertation Title: "Social Tools for Everyday Adolescent Health"  
Committee: Elizabeth D Mynatt (advisor), Amy Bruckman, Richard Catrambone, Rebecca E Grinter, James Landay, Lauren Wilcox

### **M.S. Human-Computer Interaction** 2004-2006

Georgia Institute of Technology, Atlanta, GA  
Masters Project: "Give and Take: A Study of Photo Sharing Theory and Practice"  
Advisor: Keith Edwards

### **B.A. Cognitive Science** (*cum laude*) 2000-2004

Occidental College, Los Angeles, CA

## Professional Experience

### **Schematic (A digital branding agency within WPP)** 2006-2008

User Experience Designer

### **AT&T (formerly BellSouth)** 2004-2006

Human Factors Researcher

## Awards & Honors

- 2013 Best Student Paper Award (top 10%), Pervasive Health
- 2012 Foley Scholar, GVI Center at Georgia Tech
- 2009-2011 Georgia Tech Research Institute (GTRI) Robert G. Shackelford Graduate Fellow
- 2009 Georgia Tech College of Computing Graduate Research Award

## Grants Awarded

### **Seattle Children's Hospital Faculty Research Support Fund** 2015

"TeenTECH: Developing Technology to Improve the Health of Teens with Hypertension"  
Grant proposal co-written with PI Dr. Ari Pollack, MD, awarded \$5,000

## **NSF SmartHealth (now Smart and Connected Health) 2011-2014**

“Social Tools for Everyday Adolescent Health”

Grant proposal co-written with PI Elizabeth D Mynatt, awarded \$485,694 (fully funded)

## **Publications**

Rigorously Peer-Reviewed Conference Papers

**Note:** *In Computer Science and HCI, these conferences are considered top-tier publication venues equivalent to high-impact journals*

1. Miller, A.D., Pollack, A.H., Pratt, W. “Bursting the Information Bubble: Identifying Opportunities for Pediatric Patient-Centered Technology.” AMIA Annual Symposium Proceedings. Vol. 2016. (To appear) *10 pages (full paper)*
2. Pollack, A.H., Miller, A.D., Mishra, S., Pratt, W. “PD-atricians: Leveraging Physicians and Participatory Design to Develop Novel Clinical Information Tools.” AMIA Annual Symposium Proceedings. Vol. 2016. (To appear) *10 pages (full paper)*
3. Pollack, A., Backonja, U., Miller, A.D., Mishra, S., Khelifi, M., Kendall, L., Pratt, W. “Closing the Gap: Supporting Patients’ Transition to Self-Management after Hospitalization.” Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI 2016). San Jose, California. May 7-12, 2016. (23% acceptance rate) *10 pages (full paper)*
4. Mishra, S., Haldar, S., Pollack, A., Kendall, L., Miller, A.D., Khelifi, M., Pratt, W. “‘Not Just a Receiver’: Understanding Patient Behavior in the Hospital Environment.” Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI 2016). San Jose, California. May 7-12, 2016. (23% acceptance rate) *10 pages (full paper)*
5. Miller, A. D., Mishra, S., Kendall, L., Haldar, S., Pollack, A., Pratt, W. “Partners in Care: Design Considerations for Caregivers and Patients During a Hospital Stay.” Proceedings of the 19th ACM conference on Computer-Supported Cooperative Work and Social Computing - CSCW ’16, San Francisco, California, February 27-March 2, 2016. (23% acceptance rate) *14 pages (full paper)*
6. Clawson, J. Pater, J.A., Miller, A.D., Mynatt, E.D., Mamykina, L. “No Longer Wearing: Investigating the Abandonment of Personal Health-Tracking Technologies on Craigslist.” Proceedings of UbiComp ’15, Osaka, Japan, September 07-11, 2015. (24% acceptance rate) *10 pages (full paper)*
7. Pater, J.A., Miller, A.D., Mynatt, E.D. “This Digital Life: A Neighborhood-Based Study of Adolescents’ Lives Online.” Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI 2015). Seoul, Korea. April 18-23, 2015. (23% acceptance rate) *10 pages (full paper)*
8. Miller, A.D., Mynatt, E.D. “StepStream: A School-based Pervasive Social Fitness System for Everyday Adolescent Health.” Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI 2014). Toronto, Canada. April 26-May 1, 2014. (22.8% acceptance rate) *10 pages (full paper)*
9. Miller, A.D., Pater, J.A., Mynatt, E.D. “Design Strategies for Youth-Focused Pervasive Social Health Games,” 7th International Conference on Pervasive Computing Technologies for Healthcare (PervasiveHealth 2013), 5-8 May 2013 (32% acceptance rate) *8 pages (full paper)*
10. Poole, E. S., Eiriksdottir, E., Miller, A.D., Xu, Y., Catrambone, R., Mynatt, E.D. “Designing for Spectators and Coaches: Social Support in Pervasive Health Games for Youth,” 7th International Conference on Pervasive Computing Technologies for Healthcare (PervasiveHealth 2013), 5-8 May 2013 (32% acceptance rate) *8 pages (full paper)*

11. Xu, Y., Poole, E.S., Miller, A.D., Eiriksdottir, E., Catrambone, R., Mynatt, E.D. “Designing pervasive health games for sustainability, adaptability and sociability,” Proc. of the Conference on the Foundations of Digital Games (FDG '12). (30% acceptance rate) 8 pages (full paper)
12. Miller, A. D., Poole, E. S., Xu, Y., Eiriksdottir, E., Kestranek, D., & Catrambone, R. “The Work of Play: Supporting a Pervasive Health Behavior Change Intervention for US Middle School Students.” Proceedings of the ACM 2012 conference on Computer Supported Cooperative Work - CSCW '12, Seattle, Washington, February 11-15, 2012. (39.5% acceptance rate) 4 pages (peer-reviewed note)
13. Xu, Y., Poole, E. S., Miller, A. D., Eiriksdottir, E., Kestranek, D., Catrambone, R., & Mynatt, E. D. “This is not a one-horse race: understanding player types in multiplayer pervasive health games for youth.” Proceedings of the ACM 2012 conference on Computer Supported Cooperative Work - CSCW '12, Seattle, Washington, February 11-15, 2012. (39.5% acceptance rate) 10 pages (full paper)
14. Poole, E., Miller, A.D., Xu, Y., Eiriksdottir, E., Catrambone, R., Mynatt, E.D. “The Place for Ubiquitous Computing in Schools: Lessons Learned from a School-Based Intervention for Youth Physical Activity.” Proceedings of the 13th International Conference on Ubiquitous Computing - Ubicomp '11, Beijing, China, September 17-21, 2011. (17% acceptance rate) 10 pages (full paper)
15. Mamykina, L., Miller, A.D., Grevet, C., Medynskiy, Y., Terry, M., Mynatt, E.D., Davidson, P. “Examining the Impact of Collaborative Tagging on Sensemaking in Nutrition Management.” Proceedings of the 29th international conference on Human Factors in Computing Systems - CHI 2011. Vancouver BC, Canada, May 7-12, 2011. (27% acceptance rate) 10 pages (full paper)
16. Mamykina, L., Miller, A.D., Mynatt, E.D., and Greenblatt, D. “Constructing Identities through Storytelling in Diabetes Management.” Proceedings of the 28th international conference on Human Factors in Computing Systems - CHI 2010. Atlanta, GA, April 10-15, 2010. (22% acceptance rate) 10 pages (full paper)
17. Miller, A.D., Edwards, W.K. “Give and Take: A Study of Consumer Photo-Sharing Culture and Practice.” Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI 2007). San Jose, California. April 28-May 3, 2007. (22% acceptance rate) 10 pages (full paper)

## Non-Archival Publications

Peer Refereed, Committee Reviewed, and Invited

1. Miller, A.D. “Designing Inpatient-Centered Technology Beyond the Hospital Room.” Presented at the National Library of Medicine Informatics Training Conference 2016 at Ohio State University. June 28, 2016.
2. Miller, A.D., Pollack, A.D., Pratt, W. “Designing Technologies for and with Pediatric Inpatients and their Families.” Presented at the Workshop on Interactive Systems in Healthcare (WISH) at CHI 2016. San Jose, CA. May 7, 2016.
3. Miller, A.D. “Imagining the Future(s) of Health & Wellness Informatics.” Presented at the Beyond eHealth and the Quantified Self Workshop, CSCW 2015, Vancouver CA.
4. Khelifi, M., Kendall, L., Mishra, S., Miller, A.D., Pollack, A., Aronson, B., Pratt, W. “Understanding the patient through visualization to improve provider-patient communication in hospitals: Know your patient to personalize your communication.” Proceedings of the AMIA Annual Fall Symposium, November 2015, San Francisco, CA.
5. Miller, A.D., Mynatt, E.D. “Peer Influence In A Self-Tracking Pervasive Fitness System for Adolescents: A Comparison Study.” Presented at the Workshop on Interactive Systems in Healthcare (WISH) at the AMIA Annual Symposium. Washington, DC. November 15, 2014.

6. Miller, A.D., Pater, J.A, Mynatt, E.D. “StepStream: A Social Fitness Intervention for Middle School Students.” Presented at the Workshop on Interactive Systems in Healthcare (WISH) at the AMIA Annual Symposium. Washington, DC. November 15-16, 2013.
7. Miller, A.D., Pater, J.A, Mynatt, E.D. “StepStream: A Social Fitness Intervention for Middle School Students.” Presented at the Workshop on Interactive Systems in Healthcare (WISH) at the AMIA Annual Symposium. Chicago, IL. November 3-4, 2012.
8. Eiriksdottir, E., Kestranek, D., Miller, A.D., Poole, E., Xu, Y., Catrambone, R., Mynatt, E.D. “Stepping Outside the Classroom: Fitness Video Games For K-12 Settings.” Presented at the Workshop on Interactive Systems in Healthcare at the 28th International Conference on Human Factors in Computing Systems - CHI '10. Atlanta, GA. April 10-15, 2010.
9. Medynskiy, Y., Miller, A.D., Yoo, J.W. and Mynatt, E.. “Temporal Data in a Health Self-Management Application.” Presented at the Interacting with Temporal Data workshop, at the ACM Conference on Human Factors in Computing Systems (CHI 2009). Boston, MA.

## Technical Reports

Eiriksdottir, E., Xu, Y., Miller, A.D., Poole, E., Catrambone, R., Kestranek, D., Mynatt, E.D. “Assessing Health Games in Secondary Schools: An Investigation of the American Horsepower Challenge 2009-2010.” GVU Technical Report. July 2011. <http://hdl.handle.net/1853/42173>

## Magazine Articles

Miller, A.D. “Fitness Trackers at the Crossroads.” XRDS 20, 2 (December 2013), 24-26.  
<http://doi.acm.org/10.1145/2543611>

## Teaching

### **BIME 591A – Social Computing for Peer Health Informatics, Spring 2015**

Instructor of record for this one hour seminar. Lectured, led discussions.  
 University of Washington (Seattle, WA) April–June 2015  
 Teaching effectiveness score: 4.7/5

### **CS 3750 – User Interface Design, Spring 2012**

Instructor of record for core HCI course. Lectured, mentored group projects, wrote exams.  
 Georgia Tech (Atlanta, GA) Jan–May 2012  
 Teaching effectiveness score: 4.75/5

## Invited Talks

### **UW Biomedical & Health Informatics Lecture Series (BIME 590A)**

University of Washington (Seattle, WA) January 22nd 2016

### **Guest Lecture: INSC 573 – Design Inquiry & Methods in Information Science**

Guest lecturer for Wanda Pratt  
 University of Washington (Seattle, WA) April 16th 2014

### **GVU Brown Bag Lecture Series**

Georgia Tech (Atlanta, GA) December 5th 2013

### **Wireless Health Conference**

Johns Hopkins University (Baltimore, MD) November 1st 2013

## **Guest Lecture: CS 3750 – User Interface Design**

Guest lecturer for Lauren Wilcox  
Georgia Tech (Atlanta, GA) March 14th 2014

## **Research Activities**

### Doctoral Consortia

Pervasive Health 2013 Doctoral Consortium, Venice, Italy 2013.  
AMIA 2013 Doctoral Consortium, Washington, DC 2013.

### Summer Institutes

NSF CSST Summer Institute (Center for the Science of Sociotechnical Systems), July 2015.  
NIH mHealth Training Institute, UCLA, August 2015.

### Panels Organized

Mynatt, E.D. (moderator); Arriaga, R.; Miller, A.D.; Pagliari, C.; Poole, E. “Theory vs. Design-Driven Approaches for Behavior Change Research.” The ACM Conference on Human Factors in Computing Systems (CHI 2013). Paris, France. April 27–May 2, 2013.

### Workshops Attended

Workshop on Interactive Systems in Healthcare 2010, 2012, 2013, 2014, 2015  
mHealth Summit 2010  
Human Computer Interaction Consortium (HCIC) 2012, 2015  
NSF Small Data Exchange workshop @ Cornell Tech 2015

## **Service**

### Conference Committees

Program Committee Member (Papers), CSCW 2017  
Program Committee Member (Papers), IDC—Interaction Design & Children 2013–2015  
Program Committee Member (Short Papers), IDC 2013–2014  
Program Committee Member (Short Papers), Pervasive Health 2013  
Organizing Committee Member (Fitness), CSCW 2013.

### University Committees

Full board member, Georgia Tech Central Institutional Review Board, 2009–2012  
Student member, Georgia Tech College of Computing Curriculum Task Force, 2013

### Journal Reviewing

IEEE Transactions on Health and Medical Sciences, September 2015  
Computer Supported Cooperative Work (JCSCW), 2010, 2014, 2015  
Journal of the American Medical Informatics Association (JAMIA), April 2015  
International Journal of Human-Computer Studies, October 2014  
Pervasive and Mobile Computing, August 2014  
IEEE Journal of Biomedical and Health Informatics, June 2014  
Journal of Medical Internet Research, May 2014  
Games for Health, April 2013  
Behaviour and Information Technology, April 2012

## Conference Reviewing

CHI 2007-2016

CHI Play 2015

CSCW 2011-2017

DIS 2014

Pervasive Health 2008, 2009, 2013, 2014, 2016

IDC 2013-2014

Ubicomp 2013

AMIA 2015, 2016