

Nathan G. Freier, Ph.D.

freien@rpi.edu, 518-276-2557
Language, Literature, and Communication
Rensselaer Polytechnic Institute
110 8th Street, Sage 4202
Troy, NY 12180

ACADEMIC POSITION

Assistant Professor of Human-Computer Interaction, 2007 to present
Department of Language, Literature, and Communication
Joint Appointment in Information Technology
Rensselaer Polytechnic Institute

EDUCATION

Ph.D. in Information Science, Information School, University of Washington, 2007
B.S. in Computer Science *with Distinction*, University of Washington, 2000
B.A. in Comparative History of Ideas, University of Washington, 2000

PUBLICATIONS

PEER-REVIEWED JOURNAL ARTICLES

- Freier, N. G.** (2009). Accounting for the child in the design of technological environments: A review of constructivist theory. *Children, Youth and Environments*, 19(1), 144-169.
- Kahn, P. H., Jr., Friedman, B., Gill, B. T., Hagman, J., Severson, R. L., **Freier, N. G.**, Feldman, E. N., Carrere, S., & Stolyar, A. (2008). A plasma display window? – The shifting baseline problem in a technologically-mediated natural world. *Journal of Environmental Psychology*, 28(2), 192-199.
- Friedman, B., **Freier, N. G.**, Kahn, P. H., Jr., Lin, P., & Sodeman, R. (2008). Office window of the future? – Field-based analyses of a new use of a large display. *International Journal of Human-Computer Studies*, 66(6), 452-465.
- Kahn, P. H., Jr., Ishiguro, H., Friedman, B., Kanda, T., **Freier, N. G.**, Severson, R. L., & Miller, J. K. (2007). What is a human? Toward psychological benchmarks in the field of human-robot interaction. *Interaction Studies*, 8(3), 363-390.
- Kahn, P. H., Jr., Friedman, B., Perez-Granados, D., & **Freier, N. G.** (2006). Robotic pets in the lives of preschool children. *Interaction Studies*, 7(3), 405-436.
- Waddell, P., Borning, A., Noth, M., **Freier, N.**, Becke, M. & Ulfarsson, G. (2003). UrbanSim: A simulation system for land use and transportation. *Networks and Spatial Economics*, 3(1), 43-67.

PEER-REVIEWED CONFERENCE PROCEEDINGS AND ABSTRACTS

- Freier, N. G.**, Nelson, E. J., Rotondo, A., & Kong, W. K. (2009). The moral accountability of a personified agent: Young adults' conceptions. *Extended Abstracts of the ACM Conference on Human Factors in Computing Systems (CHI 2009)*. (pp. 4609-4614). Boston, MA.
- Zalinger, J., **Freier, N. G.**, & Dutko, E. (2009). Ethnochat: An instant messenger program for ethnography. *Extended Abstracts of the ACM Conference on Human Factors in Computing Systems (CHI 2009)*. (pp. 3703-3708). Boston, MA.

- Nelson, E. & **Freier, N. G.** (2008). Push-me, pull-me: Describing and designing technologies for varying degrees of reflection and invention. *Proceedings of the ACM Conference on Interaction Design and Children (IDC 2008)*. (pp. 129-132). Chicago, IL.
- Freier, N. G.** (2008). Children attribute moral standing to a personified agent. *Proceedings of the ACM Conference on Human Factors in Computing (CHI 2008)*. (pp. 343-352). Florence, Italy.
- Kahn, P. H., Jr., **Freier, N. G.**, Kanda, T., Ishiguro, H., Ruckert, J. H., Severson, R. L., & Kane, S. K. (2008). Design patterns for sociality in human-robot interaction. *Proceedings of the ACM/IEEE International Conference on Human-Robot Interaction (HRI 2008)*. (pp. 97-104). Amsterdam, NL.
- Freier, N. G.** (2007). Children distinguish conventional from moral violations in interactions with a personified agent. *Extended Abstracts of the ACM Conference on Human Factors in Computing (CHI 2007)*. San Jose, CA. *Received 2nd place award in the Student Research Competition.
- Gold, K., Fasel, I., **Freier, N. G.**, & Torrey, C. (2007). Young researchers' views on the current and future state of HRI. *Proceedings of the 2nd ACM/IEEE International Conference on Human-Robot Interaction (HRI 2007)*. ACM/IEEE.
- Freier, N. G.** (2006). Towards an interactional model of children's relationships to personified adaptive systems. *Proceedings of the 5th International Conference on Cognitive Science (ICCS 2006)* (pp. 91-92). Vancouver, B.C, Canada.
- Silverstein, J., Nissenbaum, H., Flanagan, M., & **Freier, N. G.** (2006). Ethics and children's information systems. *Proceedings of the 2006 Annual Meeting of the American Society for Information Science & Technology (ASIS&T 2006)*. Austin, Texas.
- Kahn, P. H., Jr., Friedman, B., Alexander, I. S., **Freier, N. G.**, & Collett, S. L. (2005). The distant gardener: What conversations in the Telegarden reveal about human-telerobotic interaction. *Proceedings of the 14th Annual Workshop on Robot and Human Interactive Communication (RO-MAN '05)* (pp. 13-18). Piscataway, NJ: Institute of Electrical and Electronics Engineers (IEEE).
- Friedman, B., **Freier, N. G.**, & Kahn, P. H., Jr. (2004). Office window of the future? Two case studies of an augmented window. *Extended Abstracts of the ACM Conference on Human Factors in Computing (CHI 2004)* (pp. 1559). Vienna, Austria.
- Kahn, P. H., Jr., **Freier, N. G.**, Friedman, B., Severson, R. L., & Feldman, E. (2004). Social and moral relationships with robotic others? *Proceedings of the 13th International Workshop on Robot and Human Interactive Communication (RO-MAN '04)* (pp. 545-550). Piscataway, NJ: Institute of Electrical and Electronics Engineers (IEEE).
- Kahn, P. H., Jr., Friedman, B. Perez-Granados, D. R., & **Freier, N. G.** (2004). Robotic pets in the lives of preschool children. *Extended Abstracts of the ACM Conference on Human Factors in Computing (CHI 2004)* (pp. 1449-1452). Vienna, Austria.

PEER-REVIEWED CHAPTERS IN EDITED VOLUMES

- Friedman, B. & **Freier, N. G.** (2005). Value sensitive design. In Fisher, K E., Erdelez, S., & McKechnie, E. F. (Eds.). *Theories of Information Behavior: A Researcher's Guide*. (pp. 368-372). Medford, NJ: Information Today.

TECHNICAL REPORTS

- Kahn, P. H., Jr., Friedman, B., **Freier, N. G.**, & Severson, R. (2003). Coding manual for children's interactions with AIBO, the robotic dog - The preschool study. *UW CSE Technical Report 03-04-03*. Seattle, WA: University of Washington, Department of Computer Science and Engineering.

OTHER

Freier, N. G. (2009). Review of the book *Media and the American Child. Children, Youth, and Environments*, 19(1).

Freier, N. G., & Kahn, P. H., Jr. (2009). (Eds.) Special Issue on Children in Technological Environments, *Children, Youth, and Environments*, 19(1). (Includes an introduction by Freier and Kahn.) Available online at http://www.colorado.edu/journals/cye/19_1/.

PEER-REVIEWED PRESENTATIONS, POSTERS, AND TECHNICAL DEMONSTRATIONS

Freier, N.G. (2009). Children Make Social and Moral Attributions to a Personified Agent. Paper presented in the (**Freier, N. G.**, Kahn, P. H., Jr., Symposium Chairs) "Children in Technological Environments" paper symposium at the *Biennial Meeting of the Society for Research in Child Development*, Denver, Colorado.

Kahn, P. H., Jr., Kanda, T., Ishiguro, H., **Freier, N. G.**, Severson, R. L., Ruckert, J. R., & Gill, B. T. (2009). Children's Social and Moral Relationship With a Humanoid Robot: Behavior and Reasoning. Poster presented at the *Biennial Meeting of the Society for Research in Child Development*, Denver, Colorado.

Efthimiadis, E., & **Freier, N. G.** (2007). IR toolbox: An experiential learning tool for teaching information retrieval. Technical demonstration presented at *SIGIR '07*. Amsterdam, NL.

Kahn, P. H., Jr., Friedman, B., Gill, B., Hagman, J., Severson, R. L., **Freier, N. G.**, Feldman, E. N., Carrère, S., & Stolyar, A. (2007). Does it matter that nature's "real"? -- A plasma window's effect on heart rate recovery from low level stress. Presented at *SRCD '07: Biennial Meeting of the Society for Research on Child Development*, Boston, MA.

Kahn, P. H., Jr., Severson, R. L., & **Freier, N. G.** (2007). Toward a new comparative paradigm in developmental psychology: Human-robot interaction. Presented at *SRCD '07: Biennial Meeting of the Society for Research on Child Development*, Boston, MA.

Kahn, P. H., Jr., Friedman, B., Gill, B., Hagman, J., Severson, R. L., **Freier, N. G.**, Feldman, E. N., Carrère, S., & Stolyar, A. (2006). Does it matter that nature's "real"? -- A plasma window's effects on looking behavior and heart rate recovery from low level stress. Presented at the *Jean Piaget Society Annual Meeting*, Baltimore, MD. June 1-3, 2006.

Kahn, P. H., Jr., Friedman, B., Perez-Granados, D. R., & **Freier, N. G.** (2006). Robotic pets in the lives of preschool children. Invited talk at the *5th International Conference on Cognitive Science* workshop titled: Toward Social Mechanisms of Android Science, organized by Karl MacDorman and Hiroshi Ishiguro.

Stanton, C., & **Freier, N. G.** (2006). A robot companion for children with autism: Functional design recommendations. Presented in the Student Designer Competition at the *15th Annual Workshop on Robot and Human Interactive Communication (RO-MAN '06)*, University of Hertfordshire, UK.

Freier, N. G. (2005). Children's social and moral conceptions of embodied software agents: The influence of visual form. Presented at *iConference 2005*, Penn State University.

Freier, N. G. & Holland, K. (2005). An evolution in information science's essential building block: Has the time come to move beyond the user model? Peer reviewed abstract accepted for panel presentation at *iConference 2005*, Penn State University, Penn.

Kahn, P. H. Jr., Friedman, B., Alexander, I. S., **Freier, N. G.**, & Collett, S. L. (2005). The distant gardener: What conversations in a telegarden reveal about the user experience of telepresence. Short paper presented at *CHI 2005* (alt.chi session). Portland, OR.

Kahn, P. H., Jr., Friedman, B., Perez-Granados, D. R., & **Freier, N. G.** (2004). Robotic pets in the lives of preschool children. Presented at *Jean Piaget Society Annual Meeting*, 2004, Toronto, Ontario, Canada, June 3-5, 2004.

Kahn, P. H., Jr., Friedman, B., Perez-Granados, D. R. & **Freier, N. G.** (2003). Robotic pets in the lives of preschool children. Presented at *SRCD '03: Biennial Meeting of the Society for Research on Child Development*, April 24-27, 2003, Tampa, FL.

INVITED PRESENTATIONS AND PANELS

Freier, N. G. (2008). Child Development and Personified Technologies. Invited lecture at Cornell's SIGCHI Invited Lecture Series. Ithaca, NY. April 21, 2008.

Scasselatti, B. (moderator), Dautenhahn, K., Kozima, H., Lee, G., **Freier, N. G.**, & Gold, K. (2007). Invited panel: What is the future of HRI? *ACM 2007 Conference on Human-Robot Interaction*. Arlington, VA.

Freier, N. G. & Hagman, J. (2002). Robotic companions? AIBO in the lives of children and other human beings. Presented at the *Student SIGCHI Chapter Meeting, University of Washington*, November 4, 2002, Seattle, WA.

Freier, N. G. & Miller, D. (1999). UrbanSim data preparation software interface. Presented at the University of Washington's *PRISM Forum '99*.

ORGANIZED TUTORIALS AND WORKSHOPS

Freier, N. G., Evers, V., Kanda, T., Groom, V., Mutlu, B., & Kahn, P. H., Jr. (2009). Social responsibility in HRI: Conducting our research, changing the world. Workshop at the *ACM/IEEE International Conference on Human-Robot Interaction (HRI 2009)*.

Kahn, P. H., Jr., Kanda, T., **Freier, N. G.**, Severson, R. L., & Ishiguro, H. (2008). Coding behavioral video data and reasoning data in human-robot interaction. Workshop at the *ACM/IEEE International Conference on Human-Robot Interaction (HRI 2008)*.

Kahn, P. H., Jr., **Freier, N. G.**, Severson, R. L., & Stanton, C. (2006). Coding video data in human-robot social interaction: Behavior and reasoning. Tutorial at *15th Annual Workshop on Robot and Human Interactive Communication (RO-MAN '06)*. University of Hertfordshire, UK.

WORKSHOP PARTICIPATION

Night and Darkness: Interaction After Dark, Workshop at CHI 2008, Florence, Italy. April 6, 2008.
Zalinger, J. & **Freier, N. G.** (2008). To Be Continued: Technology, Mood and Darkness.
Presented at *Night and Darkness: Interaction After Dark, CHI 2008*. Florence, Italy.

Graduate Student Invitational Research Workshop on Human-Robot Interaction, NSF Workshop at Carmel, CA, organized by Professor Sara Kiesler and others. August 3-5, 2006.

Young HRI Researchers, NSF Workshop at ACM's HRI 2006, Salt Lake City, UT. March 1, 2006.
Freier, N. G. (2006). Designing Moral Reciprocity into Children's Personified Adaptive Systems: Ethical and Psychological Implications.

Values in Design, NSF Workshop at Santa Clara University organized by Professors Helen Nissenbaum and Geoffrey Bowker. August 1-12, 2005.

Freier, N. G. (2005). Robot as victim or victimizer: The impact of designed sociality on children's attributions of moral standing to a humanoid robot. Graduate Workshop on Values in Design Application.

Quality, Value(s) and Choice, CHI 2005, Portland, OR. April 3, 2005.

Freier, N. G., Consolvo, S., Kahn, P. H., Jr., Smith, I., & Friedman, B. (2005). A Value Sensitive Design investigation of privacy for location-enhanced computing. Presented at *Quality, Value(s), and Choice: Exploring Wider Implications of HCI Practice, CHI2005*. Portland, OR.

Shaping Human-Robot Interaction, CHI 2004, Vienna, Austria. April 26, 2004.

Kahn, P. H., Jr., Friedman, B. Perez-Granados, D. R., & Freier, N. G. (2004). Robotic pets in the lives of preschool children. Also appeared in *Proceedings of the ACM Conference on Human Factors in Computing (CHI 2004)* (pp. 1449-1452). Vienna, Austria.

SCHOLARLY SERVICE

Panels Chair, 2010 ACM/IEEE International Conference on Human-Robot Interaction

Short Paper Session Co-Chair, 2009 ACM/IEEE International Conference on Human-Robot Interaction

TEACHING

Psychological and Social Effects of Games

COMM 4966, Rensselaer Polytechnic Institute, Assistant Professor, Fall, 2008

Theory and Research in Technical Communication and Human-Computer Interaction

COMM 6480, Rensselaer Polytechnic Institute, Assistant Professor, Fall, 2008

Information Architecture

COMM 6963, Rensselaer Polytechnic Institute, Assistant Professor, Spring, 2008

Advanced Topics Seminar: Social and Emotional Aspects of Human-Computer Interaction

COMM 6963, Rensselaer Polytechnic Institute, Assistant Professor, Spring, 2008

Theory and Research in Technical Communication and Human-Computer Interaction

COMM 6480, Rensselaer Polytechnic Institute, Assistant Professor, Fall, 2007

Instructional and Training Strategies for Information Professionals

Distance LIS 560 E, University of Washington, PreDoc Lecturer, Spring, 2007

The Role of Information Behavior in Human-Computer Interaction

Distance LIS 519 A/B, University of Washington, PreDoc Lecturer, Winter, 2007

Intellectual Foundations of Informatics

INFO 300, University of Washington, PreDoc Lecturer, Winter, 2005

AFFILIATIONS

Association for Computing Machinery (ACM)

Special Interest Group on Computer-Human Interaction (SIGCHI)

AWARDS

ACM Conference on Human Factors in Computing (CHI '07) Student Research Competition, April 28

– May 3, 2007

- Received 2nd place award for short paper on dissertation research; award included \$500 travel stipend and \$300 prize money

Travel Stipend for NSF-Supported Graduate Student Invitational Research Workshop on Human-Robot Interaction, August 3-5, 2006

- Awarded a competitive stipend for travel/accommodation to a graduate student research workshop on human-robot interaction

Travel Stipend for NSF-Supported Young HRI Researchers Workshop, March 1, 2006

- Awarded a competitive stipend for travel/accommodation to a graduate workshop on young researchers in human-robot interaction hosted at the ACM's first annual HRI conference in Salt Lake City

Graduate Fellow of the NSF Workshop on Values in Design, August 1-12, 2005

- Awarded a competitive stipend for travel/accommodation to a graduate workshop on values in design

NSF Graduate Research Fellowship Honorable Mention, Spring 2002

- Received honorable mention from the NSF for Graduate Research Fellowship entry

Mary Gates Scholar, Spring, Summer, and Fall academic quarters of 1999

- Received a fellowship award of \$4,500 for work on urban land use and transportation simulation, UrbanSim

MEDIA OUTREACH

Kuchinskas, S. (2007). Get your green on in Energyville. *InternetNews.com*, September 4, 2007. Online at: http://www.internetnews.com/xSP/article.php/11203_3697656_2

Lester, B. (2007). Robot Dearest? *Science Magazine*, November 5, 2007. Online at: <http://sciencenow.sciencemag.org/cgi/content/full/2007/1105/2>

SOFTWARE DEVELOPMENT

Naguru Teenage Health Center Project, Center for Internet Studies, University of Washington

Volunteer Database Developer and Interface Designer, August 2003 to October 2003

- Developed a prototype database and data entry interface in the service of patient-client management for a teenage health center in Uganda

IRToolBox

University of Washington, Faculty Supervisor: Efthimis Efthimiadis, The Information School

Software Developer, January 2002 to June 2002

- Developed a transparent, fully-configurable web-based information indexing and retrieval system for use by Master's level students in their Information Retrieval course exercises

UrbanSim

University of Washington, Faculty Supervisor: Alan Borning, Computer Science & Engineering

Research Assistant/Project Developer, September 1998 to December 2001

- Participated in the development of a Java code base for a land use and transportation modeling system
- Developed a unique, networked calibration application for the UrbanSim modeling system