

Marita A. O'Brien

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Atlanta, GA 30329

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Education

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| Ph.D. | Georgia Institute of Technology, Engineering Psychology
(expected December 2009)
Thesis: <i>Understanding Human-Technology Interactions: The role of prior experience and age.</i> |
| M.S. | Georgia Institute of Technology, Engineering Psychology
(2006)
Thesis: <i>Effects of shape, letter arrangements, and practice on text entry on a virtual keyboard.</i> |
| M.S. | University of Colorado, Boulder, Telecommunications (1994)
Thesis: <i>Personal mobility services and intelligent networks.</i> |
| A.B. | Duke University, Math/Economics (1988) |

Research in Progress

- Effect of experience on interactions with everyday technologies;
- Effects of typical age-related changes in cognition on interactions with everyday technologies;
- Principles of intuitive human-computer interactions;
- Cognitive components of universal design;
- Characteristics of technologies and users that affect acceptance and adoption of technologies.

Publications

O'Brien, M.A., Rogers, W.A., & Fisk, A.D. (2008). Text entry interface design requirements at a glance. *Ergonomics in Design*, 16 (4), 16-22.

O'Brien, M.A., Rogers, W.A., Fisk, A.D., & Richman, M. (2008), Assessing design features of virtual keyboards for text entry. *Human Factors*, 50, 680-698.

O'Brien, M.A., Rogers, W. A., & Fisk, A. D. (2008). Developing a framework for intuitive human-computer interaction. *Proceedings of the 52nd Annual Human Factors and Ergonomics Society Meeting* (pp 1645-1649), Santa Monica, CA: Human Factors and Ergonomics Society.

O'Brien, M.A., Olson, K.E., Charness, N., Czaja, S.J., Fisk, A.D., Rogers, W.A. & Sharit, J. (2008). Understanding technology usage in older adults. *Proceedings of the 6th International Society for Gerontechnology (ISG08)* (CD-ROM Paper No. ICT-014). Pisa, Italy: International Society for Gerontechnology.

O'Brien, M.A., Rogers, W.A., & Fisk, A.D., (2008), Evaluating design features that affect older adults' performance on common computer tasks. In A. Mihailidis, J. Boger, H. Kautz, & L. Normie (Eds.), *Technology and Aging. Selected Papers from the 2007 International Conference on Technology and Aging: Vol. 21 Assistive Technology Research Series* (pp. 223-230) Amsterdam: IOS Press.

O'Brien, M.A., Rogers, W.A., & Fisk, A.D. (2007). Evaluating design features that affect older adults' performance on common computer tasks. In *Proceedings of 2nd International Conference on Technology and Aging (ICTA 2007)* (CD-ROM Paper No. T0091). Toronto, Ontario, Canada: FICCDAT (Festival of International Conferences on Caregiving, Disability, Aging and Technology).

Rogers, W. A., McLaughlin, A. C., & **O'Brien, M. A.** (2006). Selection and design of input devices for assistive technologies. *Proceedings of the 9th International Conference on Control, Automation, Robotics, and Vision* (pp.92-97), New York: IEEE.

O'Brien, M.A., Rogers, W. A., & Fisk, A. D. (2006). Text entry on a virtual keyboard: Evaluating shape and practice effects. *Proceedings of the 50th Annual Human Factors and Ergonomics Society Meeting* (pp. 747-751). Santa Monica, CA: Human Factors and Ergonomics Society.

Caine, K. E., **O'Brien, M. A.**, Park, S., Rogers, W. A., Fisk, A. D., Van Ittersum, K., Capar, M. & Parsons, L. J. (2006). Understanding acceptance of high technology products: 50 years of research. *Proceedings of the 50th Annual Human Factors and Ergonomics Society Meeting* (pp. 2148-2152). Santa Monica, CA: Human Factors and Ergonomics Society.

Park, S., **O'Brien, M. A.**, Caine, K. E., Rogers, W. A., Fisk, A. D., Van Ittersum, K., Capar, M. & Parsons, L. J. (2006). Acceptance of computer technology: Understanding the user and the organizational characteristics. *Proceedings of the Human Factors and Ergonomics Society 50th Annual Meeting* (pp. 1478-1482). Santa Monica, CA: Human Factors and Ergonomics Society.

O'Brien, M.A., Rogers, W.A., & Fisk, A.D (2005). Examining keyboard shape and arrangement effects for younger and older adults. *Proceedings of the 49th Annual Meeting of the Human Factors and Ergonomics Society* (pp. 172-176). Santa Monica: CA: Human Factors and Ergonomics Society.

O'Brien, M.A. (2004). Keyboard shape and arrangement effects on keyboard design elements. *Proceedings of the 48th Annual Meeting of the Human Factors and Ergonomics Society* (pp. 2147-2151). Santa Monica, CA: Human Factors and Ergonomics Society.

Manuscripts in Preparation

O'Brien, M.A., Olson, K.E., Rogers, W.A., & Fisk, A.D. (in preparation), *Examining age differences in technology usage by younger and older adults.*

Presentations

O'Brien, M.A., Rogers, W. A., & Fisk, A. D. (April, 2009). Discerning prior knowledge use by older adults in technology interactions. Presented at the *30th Annual Meeting of the Southern Gerontological Society (SGS)*, April 16-19, 2009, St. Petersburg, FL.

Olson, K.E., **O'Brien, M.A.**, Rogers, W. A., Fisk, A. D., & Fisk, A.D. (April, 2009). Understanding the potential for technology to support caregivers. Presented at the *30th Annual Meeting of the Southern Gerontological Society (SGS)*, April 16-19, 2009, St. Petersburg, FL.

O'Brien, M.A., Rogers, W. A., & Fisk, A. D. (September, 2008). Developing a framework for intuitive human-computer interaction. Presented at the *52nd Annual Human Factors and Ergonomics Society Meeting*, September 22-26, 2008, New York.

O'Brien, M.A., Rogers, W. A., & Fisk, A. D. (September, 2008). Understanding intuitive technology use in older persons. Presented at the *9th Global Conference on Ageing: Ageing Design Montreal*, September 4-7, 2008, Montreal, Quebec, Canada.

O'Brien, M.A., Olson, K.E., Charness, N., Czaja, S.J., Fisk, A.D., Rogers, W.A. & Sharit, J. (April, 2008). *Understanding technology usage for younger and older adults.* Presented at the 11th Cognitive Aging Conference, Atlanta, GA.

McLaughlin, A. C., **O'Brien, M. A.**, & Rogers, W. A. (August 2007). *Age-related cognitive differences may be ameliorated through correct input device choice.* American Psychological Association Annual Meeting, San Francisco, CA.

Rogers, W.A., **O'Brien, M.A.**, & McLaughlin, A.C. (December, 2006). *Selection and design of input devices for assistive technologies.* Presented at the 9th International Conference on Control, Automation, Robotics, and Vision (ICARCV 2006), Singapore.

Rogers, W.A., & **O'Brien, M.A.** (November, 2006). *Undergraduates in the Human Factors and Aging Lab.* Invited address for Successful Models for Merging Graduate and Undergraduate Education, Atlanta, GA: Georgia Institute of Technology's Center for the Enhancement of Teaching and Learning.

O'Brien, M.A., Rogers, W. A., & Fisk, A. D. (October, 2006). *Text entry on a virtual keyboard: Evaluating shape and practice effects.* Presented at the 50th Annual Human Factors and Ergonomics Society Meeting. San Francisco, CA.

O'Brien, M.A., & Kaye, R. (October, 2006). *UPCARE: A structured approach to describe and analyze medical device use-related problems,* Presented at Human Factors in Health Care conference, Rochester, MN: Mayo Clinic.

O'Brien, M.A., Caine, K.E., Seifert, E.M., Rogers, W.A. & Fisk, A.D. (April, 2006). *Developing a model of technology acceptance and aging*. Presented at the 10th Cognitive Aging Conference, Atlanta, GA.

O'Brien, M.A. (February, 2006). *Effects of shape and practice on text entry on a virtual keyboard*. Presentation to the Cognitive Aging Group at Georgia Tech.

O'Brien, M.A. (November, 2005). *Giving Back: Service Through College Student Professional Organizations*. Presentation to the National Consortium for Specialized Secondary Schools of Mathematics, Science & Technology (NCSSSMST), Atlanta, GA.

O'Brien, M.A. (September, 2005). *Examining keyboard shape and arrangement effects for younger and older adults*. Presented at the annual meeting of the Human Factors and Ergonomics Society, Orlando, FL.

O'Brien, M.A. (September, 2004). *Keyboard shape and arrangement effects on keyboard design elements*. Presented at the annual meeting of the Human Factors and Ergonomics Society, New Orleans, LA.

O'Brien, M.A., Richman, M., Rogers, W.A., and Fisk, A.D. (July, 2004). *Assessing text entry requirements and designs for next generation devices*. Presented at the annual meeting of the American Psychological Association, Honolulu, HI.

Workshops

O'Brien, M.A., Fausset, C.B., Rogers, W. A., & Fisk, A. D. (September, 2008). *Translating science into practice: Design principles for older users*. Presented at the 9th *Global Conference on Ageing: Ageing Design Montreal*, September 4-7, 2008, Montreal, Quebec, Canada.

Technical Reports

Van Ittersum, K., Rogers, W. A., Capar, M., Caine, K.E., **O'Brien, M.A.**, Parsons, L.J. & Fisk, A.D. (2008). *Understanding technology acceptance: Phase 3 (part 1) – quantitative modeling*, (Technology Report HFA-TR-0705). Atlanta, GA: Georgia Institute of Technology, School of Psychology, Human Factors and Aging Laboratory.

Van Ittersum, K., Rogers, W. A., Capar, M., Caine, K.E., **O'Brien, M.A.**, Parsons, L.J. & Fisk, A.D. (2007). *Understanding technology acceptance: Phase 2 – identifying and validating the metrics & preliminary testing of a quantitative model*, (Technology Report HFA-TR-0604). Atlanta, GA: Georgia Institute of Technology, School of Psychology, Human Factors and Aging Laboratory.

Van Ittersum, K., Rogers, W. A., Capar, M., Caine, K.E., **O'Brien, M.A.**, Parsons, L.J. & Fisk, A.D. (2007). *Understanding technology acceptance: Phase 2 (part 2) – refining the quantitative model*, (Technology Report HFA-TR-0604). Atlanta, GA: Georgia Institute of Technology, School of Psychology, Human Factors and Aging Laboratory.

Van Ittersum, K., Rogers, W. A., Capar, M., Caine, K.E., **O'Brien, M.A.**, Parsons, L.J. & Fisk, A.D. (2006). *Understanding technology acceptance: Phase 1 literature \ review and qualitative model development* (Technology Report HFA-TR-0602). Atlanta, GA: Georgia Institute of Technology, School of Psychology, Human Factors and Aging Laboratory.

O'Brien, M.A., Rogers, W.A., Richman, M., and Fisk, A.D. (2005), *Keyboard shape and arrangement effects on visual scan elements of text entry* (Technical Report HFA-TR-0501), Atlanta, GA, Georgia Institute of Technology, Human Factors and Aging Laboratory.

Professional History

Graduate Research Assistant for the Human Factors & Aging Lab, Georgia Institute of Technology, Atlanta, GA

2003 – present

Duties include:

- Select, train and coordinate undergraduate research assistants
 - Supervised senior thesis, 2007-2008
 - Supervised Presidential Undergraduate Research Award, 2005
- Provide information for lab visitors about current research projects
- Psychological research:
 - Review academic and professional literature
 - Design research studies
 - Data collection and analysis
 - Publication and presentation writing

Medical Device Fellow,

Human Factors, Center for Devices and Radiological Health (CDRH)

U.S. Food & Drug Administration (FDA), Rockville, MD

May – September 2006

Duties included:

- Developed prototype for revised Human Factors portion of web site for medical device manufacturers, health care professionals and engineers, consumers, and other FDA employees
- Recommended human factors input for medical device guidance documents
- Evaluated human factors safety components of pre-market submissions for medical devices
- Advised post-market surveillance committee on possible use-related issues related to adverse events.

Coordinator for the Cognitive Aging Conference,
Georgia Institute of Technology, Atlanta, GA
September 2003 – April 2004

Duties included:

- Coordinated student volunteers in hosting conference, staffing the registration desk, supporting the poster sessions, and providing audio-visuals for presentations
- Organized abstracts, compiling program and abstract book, and arranging for printing of abstract book and program
- Coordinated logistics of meeting with hotel and vendors
- Prepared instructions and communications for presentations and poster sessions

Senior Manager,
Deloitte Consulting, Atlanta, GA and Sydney, Australia
1994 – 2003

Duties included:

- Provided management consulting expertise for twelve international corporations on speech recognition system design, IVR design, call center operations, call center technologies, network management operations, data center design, data communications design and customer service models.
- Managed consulting teams of up to twenty-five consultants at client-site projects.
- Taught one-week orientation course on 'Consulting Basics' for new systems analysts.
- Supervised career development for ten management consultants.
- Recruited management consultants to Deloitte by interviewing potential staff and coordinating recruiting events at the University of Colorado, Boulder.
- Served on Women's Leadership Committee in Atlanta, 2001-2003.

Network Analyst,
Morgan Stanley & Company, NY
1988 – 1992

Duties included:

- Coordinated installation and maintenance of PC software and hardware for 150 investment banking personnel.
- Designed, configured and supported international data communications network.
- Identified and resolved data communications problems in central communications operations support center.

Teaching

Instructor (Undergraduate course). Human Development (Georgia Institute of Technology, Atlanta, GA). Summer 2008.

Guest Lecturer: Design/Research Methods (Undergraduate course).
"Understanding *intuitive* in Intuitive Human Computer Interaction." Instructor:
Neta Fisk (Georgia Institute of Technology, Atlanta, GA). Fall 2008.

Guest Lecturer: Sympathetic Devices (Undergraduate course). "Designing for Older Adults: Key Factors for Successful Design." Instructor: Claudia R. Winegarden (Georgia Institute of Technology, Atlanta, GA). Fall 2008.

Guest Lecturer: Research Design (Graduate course). "Understanding and Evaluating Psychological Research." Instructor: Arthur D. Fisk (Georgia Institute of Technology, Atlanta, GA). Fall 2007.

Teaching Practicum Group Teacher: Introductory Psychology. Lectures: "Taste Aversion as Classical Conditioning", "Perception", "Reasoning and Decision-Making", "Social-Cognitive Personality". Instructor: Dianne Leader (Georgia Institute of Technology, Atlanta, GA). Spring 2007

Guest Lecturer: Introductory Psychology. "Language Acquisition." Instructor: Wendy Rogers (Georgia Institute of Technology, Atlanta, GA). Fall 2006

Facilitator: Systems Analyst Orientation. Deloitte Consulting (Colorado Springs, CO). Summer 2003.

Teaching Assistant: Engineering Economics. Instructor: James Alleman (University of Colorado, Boulder, CO). Fall 1993.

Teaching Assistant: Data Communications 1. Instructor: Nancy Korpi (University of Colorado, Boulder, CO). Spring 1993.

Awards & Honors

Student Member with Honors
Human Factors & Ergonomics Society, 2006

Georgia Institute of Technology, Psychology Department
Aging Traineeship - National Institute of Aging (2004 - 2009)

Certifications and Workshops

The Road to Cognitive Systems Engineering, September 2008

- Full day workshop at the HFES annual meeting in New York.

Designing to Enhance Situation Awareness, October 2006

- Full day workshop at the HFES annual meeting in San Francisco, CA.

Eye Tracking: Ready for the Usability Toolbox, September, 2005

- Full day workshop at the HFES annual meeting in Orlando, FL.

Certification for the Center of Research and Education on Aging and Technology Enhancement (CREATE)

- Certified to test participant groups (4/2006)
- Certified to score participant groups (4/2006)
- Certified to score individual participant data (11/2003)

Research training course on the Protection of Human Research Subjects
National Institute of Health Office of Human Subjects

- Certified to test participants (9/2003)

Professional and Honor Societies

Georgia Institute of Technology student chapter, HFES

President, 2005-2006

Webmaster, 2004-2005

American Psychological Association

American Psychological Society

Human Factors and Ergonomics Society (HFES)

Other Activities

Big Sister. Big Brothers & Big Sisters of Atlanta, 2002 – present

Reviewer, Aging Technical Group and Student Session committees for Human Factors and Ergonomics Society Conference, San Antonio, 2009.

Reviewer, Best student paper award for Cognitive Engineering and Decision-Making technical group for Human Factors and Ergonomics Society Conference, New York, 2008.

Reviewer, Training Technical Group and Student Session committees for Human Factors and Ergonomics Society Conference, New York, 2008.

Panel Member, *Mentoring Undergraduates in Research*, Atlanta, GA: Georgia Institute of Technology's Center for the Enhancement of Teaching and Learning, 2007.

Reviewer, Training-TG Best Student Paper Award Selection Committee, Human Factors and Ergonomics Society Conference, Baltimore, MD, 2007.

Member. Georgia Tech Student Chapter of Human Factors and Ergonomics Society, 2003 – present

President. Telecommunications Student Organization (University of Colorado, Boulder), 1993-1994

References

Wendy A. Rogers, Ph.D.

School of Psychology, Georgia Institute of Technology

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Arthur D. Fisk, Ph.D.

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