

Franklin P. Tamborello, II

Rice University Department of Psychology, MS-25
PO Box 1892
Houston, Texas 77251-1892 USA

Office: 713-348-2141
Fax: 713-348-5221
<http://chil.rice.edu/tambo/>
tambo@rice.edu

Education

- Ph.D. (anticipated in 2008) in Human-Computer Interaction with emphasis in computational cognitive modeling, Rice University, Houston, TX. *Routine Procedural Memory and its Interactions with Perceptual-Motor Processes*. Advisor: Dr. Michael D. Byrne.
- M.A. (May, 2006) in Human-Computer Interaction with emphasis in computational cognitive modeling, Rice University, Houston, TX. Thesis title: *Visual Displays: The Continuing Investigations of the Highlighting Paradox*. Advisor: Dr. Michael D. Byrne.
- B.A. in Psychology, double minor in History and Media Studies, Trinity University, San Antonio, TX. Undergraduate thesis title: *Memory and Emotional Fluency*. Thesis advisor: Dr. Paula Hertel.

Research Interests

My research interests are in a general sense concerned with efficient human performance in tasks that use the computer as the principal tool. One research program is reexamining visual search in a simple highlighted display. Replication of a previous experiment (Fisher and Tan, 1987) found that people do not perform optimally in an environment with probabilistic search cues. Instead users may be probability matching, in which case the highlighting is still helpful in terms of speeding visual search, but not greatly so. The second research program is concerned with determining how people learn to select efficient work strategies, with keyboard shortcuts as a microcosmic focus of the larger problem space of efficient work practices. Exploratory work determined that people may be learning keyboard shortcuts from coworkers because the cues are provided during circumstances of maximum salience to the current work goal and the benefits of the new procedure are demonstrated first-hand.

Publications: Refereed Conference Proceedings

Tamborello, F. P., II, & Byrne, M. D. (2006). Adaptive but Non-Optimal Visual Search Behavior in Highlighted Displays. Presented as a talk at and published in the proceedings of the Seventh International Conference on Cognitive Modelling.

Tamborello, F. P., II, Peres, S. C., & Fleetwood, M. D. (2006). A peer-mediated leap to efficiency: A theory of cost-benefit analysis in the selection of efficient strategies. Proceedings of the Human Factors and Ergonomics Society 50th Annual Meeting. Santa Monica, CA: Human Factors and Ergonomics Society.

Peres, S. C., Fleetwood, M. D., **Tamborello, F. P., II**, & Yang, M. & Paige-Smith, D. L. (2005). The pros and cons of efficiency: Predicting the use of the keyboard to issue commands. *Proceedings of the Human Factors and Ergonomics Society 49th Annual Meeting*. (pp. 637 – 641). Santa Monica, CA: Human Factors and Ergonomics Society.

Tamborello, F. P., II, & Byrne, M. D. (2005). Information search: The intersection of visual and semantic space. *CHI 2005 Extended Abstracts*, (pp. 1821-1824). New York, NY: Association for Computing Machinery.

Peres, S. C., **Tamborello, F. P., II**, Fleetwood, M. D., Chung, P., & Paige-Smith, D.L. (2004). Keyboard shortcut usage: The roles of social factors and computer experience. *Proceedings of the Human Factors and Ergonomics Society 48th Annual Meeting*. (pp. 803 – 807). Santa Monica, CA: Human Factors and Ergonomics Society.

Presentations

Oral

A peer-mediated leap to efficiency: A theory of cost-benefit analysis in the selection of efficient strategies. Given October 18 at the 50th Meeting of the Human Factors and Ergonomics Society.

Adaptive but Non-Optimal Visual Search Behavior in Highlighted Displays. Given April 7, 2006 at the Seventh International Conference on Cognitive Modeling.

Cost/benefit analysis and efficient work strategy selection: Using keyboard shortcuts to issue commands. March 6, 2006. Rice University Human-Computer Interaction/Human Factors Seminar.

Visual displays: The continuing investigations of the highlighting paradox. November 23, 2005. Master's degree defense and Cognitive Tea, Rice University, combined.

Pros, cons, and changing behavior: An application in the use of the keyboard to issue commands. (slides authored by S. Camille Peres). September 27, 2005. Human Factors and Ergonomics 49th Annual Meeting.

Information Search: The Intersection of Visual and Semantic Space. April 5, 2005. CHI 2005.

Highlighting: A Presentation in Two Acts. March 30, 2005. Cognitive Tea, Rice University.

Information Search: The Intersection of Visual and Semantic Space. March 10, 2004. Cognitive Tea, Rice University.

Poster

Visual Displays: The (Modeled) Highlighting Paradox. May 6, 2005. Human Factors and Ergonomics Society, Houston Chapter 2nd Conference.

Grants and Awards

Research Awards

Gertrude Maurin Fund research award: \$350 for subject money for research leading to the publication and presentation of Peres, Fleetwood, Yang, & Paige-Smith (2005).

Travel Awards

Psychology Department: \$400 to attend International Conference on Cognitive Modeling and present Tamborello and Byrne (in press). March, 2006.

Gertrude Maurin Fund: ICCM: \$500 to attend International Conference on Cognitive Modeling and present Tamborello and Byrne (in press). March, 2006.

Psychology Department: \$400 to attend Human Factors and Ergonomics Society 49th Annual Meeting and present Peres et al. (2005). September, 2005.

Gertrude Maurin Fund: HFES 2005: \$291 to attend Human Factors and Ergonomics Society 49th Annual Meeting and present Peres et al. (2005). September, 2005.

Psychology Department: \$400 to attend CHI 2005 and present Tamborello and Byrne (2005). April, 2005.

Gertrude Maurin Fund: \$300 to attend CHI 2005 and present Tamborello and Byrne (2005). April, 2005.

Rice University Academic Research Support Fund: \$494.50 to attend CHI 2005 and present Tamborello and Byrne (2005). April, 2005.

Psychology Department: \$400 to attend Human Factors and Ergonomics Society 48th Annual Meeting. September, 2003.

Scholarships

Princeton Review GRE Course Scholarship, \$500. September, 2002.

Trinity University President's Scholarship, \$3,000 per year. Fall 1997 – Spring 2001.

Teaching Experience

Teaching Assistant

- Research Methods (Spring 2006 and Fall 2004)
- Introduction to Psychology (Fall 2003)

Guest Lectures

- Cognitive Modeling and Engineering (Introduction to Cognition, Fall 2007)
- Ethics (Research Methods, Spring 2006)
- Data Analysis with SPSS (Research Methods, Fall 2004)

Work Experience

Graduate Student, Rice University Department of Psychology

September 2003 – Present, Department of Psychology, Rice University.

- Heavy involvement in all stages of research, from literature synthesis to experiment execution to write-up
- Design and implementation of computational cognitive models using the ACT-R cognitive architecture

Computer Skills

Hardware

- Comprehensive desktop/laptop upgrade and repair including logic board replacement

Software

- Mastered: Macintosh OS (7 through 10.4 client), Delta Graph 5, Microsoft Excel
- Familiarized with: Macintosh Server 10.3 (file and web serving), SPSS, Dreamweaver MX, ACT-R 5 and 6, MCL 5, Microsoft Word, PowerPoint, Key Note, Adobe Acrobat Professional 6, Photoshop 7, Indesign CS, Graphic Converter, OmniOutliner Pro, OmniGraffle Pro, Retrospect
- Acquainted with: AppleScript, FileMaker, Adobe Illustrator 10

Co-op, Lockheed-Martin Space Operations

June 2005 – August 2005

Supervisor: Dr. Jurine Adolf

- Conducted usability studies of equipment under development for use by astronauts
- Assisted with drafting of human factors standards documents for a proposed crew exploration vehicle

Publications Assistant, Rice University Information Technology Department

September 2003 – June 2004

Supervisors: Carlyn Chatfield, Liz Brigman, Rick Nelson

I implemented revisions to web pages and print publications. I used Macromedia Dreamweaver MX for editing web pages and managing files on my local machine, the development server, and the production server.

Research Assistant, Rice University Department of Psychology

Summers 1998 – 2000 and May 2001 – August, 2003

Supervisor: Dr. Randi C. Martin

I assisted in design, construction, data collection and analyzation of experiments on undergraduate, patient, and age-matched control subject populations. I maintained lab equipment, supplies, subject payment funds, and parking voucher tickets.

Technical Assistant, Trinity University Department of Speech and Drama

September 1997 – May 2000

Under the direction of Timothy Francis, I constructed from blueprints sets and props for productions of the Speech and Drama department. Mostly I engaged in carpentry, but I did also learn basic welding.

Professional Affiliations

- Student Member, Human Factors and Ergonomics Society, Houston Chapter. (2004 – present)
- Student Affiliate, Human Factors and Ergonomics Society. (2004 – present)

Service

- Webmaster, Human Factors and Ergonomics Society, Houston Chapter
- Conference Planning Committee, Human Factors and Ergonomics Society, Houston Chapter
- Department of Psychology Prospective Student Weekend Planning Committee

Skills

- Technical literature research & reporting
- Design, implementation, & analysis of experiments
- Design and implementation of cognitive models using the ACT-R computational cognitive modeling architecture
- SPSS statistical package, Microsoft Excel to analyze data
- Dreamweaver MX to build & manage websites

Professional References

Dr. Michael D. Byrne
Assistant Professor
Rice University Department of Psychology
6100 S. Main, MS-25
Houston, TX 77005-1892
713-348-3770
byrne@rice.edu

Dr. David M. Lane
Associate Professor
Rice University Department of Psychology
6100 S. Main, MS-25
Houston, TX 77005-1892
713-348-3412
lane@rice.edu

Dr. Randi C. Martin
Elma Schneider Professor and Psychology
Department Chair
Rice University Department of Psychology
6100 S. Main, MS-25
Houston, TX 77005-1892
713-348-3417
rmartin@rice.edu

Dr. S. Camille Peres
Assistant Professor
University of Houston Clear Lake
Department of Psychology
2700 Bay Area Blvd.
Houston, TX 77058
281-283-3412
peressc@uhcl.edu

Dr. Michael D. Fleetwood
Research Scientist
Micro Analysis and Design
4949 Pearl East Circle, Ste. 300
Boulder CO 80301
303-442-6947 x196
mfleetwood@maad.com

Dr. Jurine Adolf
Lockheed Martin Space Operations
1300 Hercules, M/C C46
P.O Box 58487-77258
Houston TX 77058
281-483-2541
jurine.a.adolf1@jsc.nasa.gov

Extra Curricular Activities

- Graduate Student Association intramural ultimate frisbee team
- Graduate Student Association intramural swim team
- Co-editor and author, *Trinity Student*, an underground satirical newspaper
- Co-producer and co-host, *Entertainment Forum*, campus television video game review show