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## Matthew D Zeigenfuse <mzeigenf@uci.edu>

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University of California, Irvine

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### EDUCATION

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**University of California, Irvine** Expected 2010 – 2011  
*Ph.D. Psychology*

**Boston University** May 2003  
*B.A. Mathematics*

### HONORS & AWARDS

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**Society for Mathematical Psychology** August 2009  
*Student Travel Award*

**Cognitive Science Society** July 2009  
*Student Travel Award*

**University of California, Irvine** June 2007, 2008  
*IMBS Summer Research Fellowship*

**University of California, Irvine** September 2006  
*Social Sciences Dean's Fellowship*

**Boston University** May 2002  
*NIH-SREU Grant in Bioinformatics*

**Boston University** September 1999 – May 2003  
*Merit Scholarship*

### RESEARCH & PROFESSIONAL

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**University of California, Irvine** September 2006 – Present  
*Graduate Student*

- Models of feature salience in similarity judgments and category representations.
- Structured accounts of individual differences.
- *Supervisor(s)*: Michael D. Lee

**University of California, Irvine** June 2010 (Upcoming)  
*Graduate Research Assistant*

- Development of Bayesian computational methods for analyzing a 2PL item response model of matching test performance.
- *Supervisor(s)*: William Batchelder

**University of California, Irvine** June 2010 (Upcoming)  
*Graduate Research Assistant*

- Application of latent assignment framework to detect cheaters on the Mild Cognitive Impairment (MCI) screening test, a common Alzheimer's diagnostic.
- *Supervisor(s)*: Michael D. Lee, W. Rodman Shankle

**University of California, Irvine** January 2010 – March 2010  
*Graduate Research Assistant*

- Development of Bayesian computational methods for analyzing a Rasch model of matching test performance.
- *Supervisor(s)*: Mark Steyvers, William Batchelder

**University of Amsterdam**

July 2009 – September 2009

Graduate Research Assistant

- Extension of Potential Performance Theory model of interpersonal agreement using Item Response Theory.
- *Supervisors(s)*: Eric-Jan Wagenmakers

**Raytheon Corporation**

October 2004 – September 2006

Systems Engineer

- Software development for distributed tracking and communications systems.
- Real-time software and hardware-in-the-loop simulation.

**Boston University**

May 2002 – August 2002

NIH-SREU

- Quantitative analysis of retinal images to determine effects of certain metabolites on salamander retinas.
- *Supervisor(s)*: William D. Eldred

**PUBLICATIONS**

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Zeigenfuse, M.D., & Lee, M.D. (in press). Heuristics for choosing features to represent stimuli. *Proceedings of the 32nd Annual Conference of the Cognitive Science Society*.

Zeigenfuse, M.D., & Lee, M.D. (in press). A general latent assignment approach for modeling psychological contaminants. *Journal of Mathematical Psychology*.

Zeigenfuse, M.D., & Lee, M.D. (2010). Finding the features that represent stimuli. *Acta Psychologica*, 133, 283-295.

Zeigenfuse, M.D. & Lee, M.D. (2009). Bayesian nonparametric modeling of individual differences: A case study using decision-making on bandit problems. In N. Taatgen, H. van Rijn, J. Nerbonne, & L. Shonmaker (Eds.), *Proceedings of the 31st Annual Conference of the Cognitive Science Society*, pp. 1412-1415. Austin, TX: Cognitive Science Society.

Zeigenfuse, M.D. & Lee, M.D. (2008). Finding feature of representations of stimuli: Combining feature generation and similarity judgment tasks. In V. Sloutsky, B. Love, & K. McRae (Eds.), *Proceeding of the 30th Annual Conference of the Cognitive Science Society*, pp. 1825-1830. Austin, TX: Cognitive Science Society.

**PRESENTATIONS**

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“Finding the features that represent stimuli”. *41st Annual Conference of the Society for Mathematical Psychology*. Amsterdam, NL. 2009

“Bayesian nonparametric modeling of individual differences: A case study using decision-making on bandit problems”. *31st Annual Conference of the Cognitive Science Society*. Amsterdam, NL. 2009

“Psychological contaminants as missing data: A latent-assignment approach”. *40th Annual Conference of the Society for Mathematical Psychology*. Washington, DC. 2008

“Finding feature representations of stimuli by combining feature generation and similarity judgment tasks”. *Katholieke Universiteit Leuven*. Leuven, Belgium. Invited talk funded by Belgian National Science Foundation. 2008

“Finding feature representations of stimuli: Combining feature generation and similarity judgment tasks”. *University of California, Irvine*. Department of Cognitive Sciences. Colloquium. 2008

“Inferring combined feature and dimensional stimulus representations”. *University of California, Irvine*. Institute for Mathematical Behavioral Sciences. Graduate Research Symposium. 2007

## POSTERS

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“Finding feature representations of stimuli: Combining feature generation and similarity judgment tasks”. *30th Annual Conference of the Cognitive Science Society*. Washington, DC. 2008

“Psychological contaminants as missing data: A latent-assignment approach”. *Institute for Mathematical Behavioral Sciences Summer Research Symposium*. Irvine, CA. 2007

“A Bayesian model of additive clustering”. *Annual Meeting of the Society for Mathematical Psychology*. Costa Mesa, CA. 2007

“Determining the effects of metabolites on the retina using quantitative image analysis”. *Boston University Undergraduate Summer Research Symposium*. Boston. 2002

## TEACHING

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### University of California, Irvine

January 2007 – Present

*Teaching Assistant*

- Experimental Psychology (Winter 2009, Fall 2009)
- Personality Theory (Spring 2009)
- Probability and Statistics for Social Scientists (Winter 2007 – Spring 2008)

### Private Mathematics Tutor

September 2003 – October 2004

- Calculus (September 2003 – June 2004)
- Pre-calculus (September 2004 – October 2004)

### Boston University

September 2000 – May 2003

*Peer Tutor*

Various undergraduate mathematics courses.

## SERVICE

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### Ad-hoc Reviewing

*Acta Psychologica, Cognitive Science Society*

### Boston University

September 2001 – May 2002

*Vice President, Undergraduate Mathematics Association*

## COMPUTER SKILLS

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R, MATLAB, WinBUGS, L<sup>A</sup>T<sub>E</sub>X, C/C++, SPSS, SAS, UNIX