CURRICULUM VITAE | Trevor J. Barrett | Born 1988, Maryland | US Citizen

Department of Psychological and Brain Sciences | University of California, Santa Barbara | Santa Barbara, CA 93106-9660

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Education

University of California, Santa Barbara

Ph.D. Psychological and Brain Sciences, 2019
Dissertation: "Ability moderates alternate strategy use during the mental rotation task with molecule-like stimuli"

M.A. Psychological and Brain Sciences, 2015
Thesis: "Interaction Design and the Role of Spatial Ability in Virtual Molecule Manipulation Performance"

B.A. Psychology, 2011

Research Experience

University of California, Santa Barbara | 2010 - 2019

Graduate Student Researcher | 2013-15
NSF grant: Modeling, Display, and Understanding Uncertainty in Simulations for Policy Decision Making.

Graduate Student Researcher | 2012-13; Research Assistant II | 2010 -12
NSF grant: Representation Translation with Concrete and Virtual Models in Chemistry.

Publications

Hegarty, M., Friedman, A., Boone, A. P., & **Barrett, T. J.** (2016). Where are you? The effect of uncertainty and its visual representation on location judgments in GPS-like displays. *Journal of Experimental Psychology: Applied.*

Barrett, T. J., & Hegarty, M. (2016). Effects of interface and spatial ability on manipulation of virtual models in a STEM domain. *Computers in Human Behavior*, *65*, 220-231.

McKenzie, G., Hegarty, M., **Barrett, T. J.**, & Goodchild, M. (2016). Assessing the effectiveness of different visualizations for judgments of positional uncertainty. *International Journal of Geographical Information Science*, 30(2), 221-239.

Barrett, T. J., Stull, A. T., Hsu, T. M., & Hegarty, M. (2015). Constrained interactivity for relating multiple representations in science: When virtual is better than real. *Computers & Education*, *81*, 69-81.

Barrett, T. J., & Hegarty, M. (2014). Interaction design and the role of spatial ability in moderating virtual molecule manipulation performance. In *Proceedings of the 36th Annual Conference of the Cognitive Science Society* (pp. 672-677). Cognitive Science Society Austin, TX.

McKenzie, G., **Barrett, T. J.**, Hegarty, M., Goodchild, M., Thompson, W. (2013). Assessing the effectiveness of visualizations for accurate judgments of geospatial uncertainty. *Visually-Supported Reasoning with Uncertainty workshop at the Conference on Spatial Information Theory* (COSIT '13). Scarborough, UK

Barrett, T. J., & Hegarty, M. (2013). Interface design and spatial cognition: A case of virtual molecule manipulation. In M. Knauff, M. Pauen, N. Sebanz, & I. Wachsmuth (Eds.*), Proceedings of the 35th Annual Conference of the Cognitive Science Society* (pp. 157-162). Austin, TX: Cognitive Science Society.

Stull, A. T., **Barrett, T. J.**, & Hegarty, M. (2013). Usability of concrete and virtual models in chemistry instruction. *Computers in Human Behavior, 29(6)*, 2546-2556.

Stull, A.T., **Barrett, T. J.**., & Hegarty, M. (2012). Design of a virtual reality system for the study of diagram use in organic chemistry. In *Proceedings of the Workshop on Technology-Enhanced Diagrams Research* (pp. 33-41).

Presentations

Barrett, T. J., Hegarty, M., McKenzie, G., Goodchild, M. (2015, July) Interpreting visualizations of uncertainty on smartphone displays. Poster presented at Annual Meeting of the Cognitive Science Society. Pasadena, CA.

Hegarty, M., **Barrett, T. J.**, McKenzie, G., Goodchild, M. (2014, November) Interpreting visualizations of uncertainty on smartphone displays. Poster presented at Annual Meeting of the Psychonomic Society. Long Beach, CA.

Barrett, T. J., Hegarty, M., McKenzie, G., Goodchild, M. (2014, September) Evaluating visualizations of geospatial uncertainty. Poster presented at Spatial Cognition 2014. Bremen, Germany.

Barrett, T. J., Hegarty, M. (2013, August) Interface design and spatial cognition: A case of virtual molecule manipulation. Presentation at International Spatial Cognition Summer Institute 2013. Santa Barbara, CA.

Barrett, T. J., Hegarty, M. (2013, July) Understanding the "blue dot" in smartphone displays. Presentation at Diagrammatic Cognition Workshop at 35 Annual Conference of the Cognitive Science Society. Berlin, Germany.

Barrett, T. J., McKenzie, G., Hegarty, M., Thompson, W.B., Goodchild, M. F. (2013, July) Understanding the "blue dot" in smartphone displays. Poster presented at spatial@ucsb. Santa Barbara, CA.

Stull, A. T., **Barrett, T. J**, Hegarty, M. (2012, August). Representational translation with concrete and virtual models in organic chemistry. Poster presented at 34th Annual Conference of the Cognitive Science Society. Sapporo, Japan.

Stull, A. T., **Barrett, T. J.**, Hegarty, M. (2011, August). Directional bias induced error patterns when translating structural representations. Poster presented at 33rd Annual Conference of the Cognitive Science Society. Boston, Massachusetts.

Grants

NSF XSEDE Computational Start-up Grant, "Exploring the Spatial-STEM Link: Ability and Strategy in Enantiomer Discrimination Performance" | TG-DBS160003 | 50,000 SU Award | 2016

Awards

Graduate Division Dissertation Fellowship | Fall 2017
Raymond Nickerson Best Paper Award from *JEP: Applied* | 2016
NSF Graduate Research Fellowship, Honorable Mention | 2015

Editorial Service

Computers in Human Behavior, Ad-Hoc Reviewer

Teaching Experience

Teaching Assistant at University of California, Santa Barbara

Laboratory in Advanced Research Methods

Laboratory in Human Memory

Cognitive Psychology

Human Thinking and Problem Solving

Developmental Psychology

Hormones and Cognition

Constructs in Psychology