Kurt Braunlich

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Education:
Ph.D. Psychology and Molecular, Cellular and Integrative Neurosciences. Colorado State University (Summer, 2015)
- Advisor: Dr. Carol Seger
- Dissertation: Categorical Evidence, Confidence and Urgency during the Integration of Multi-Feature Information

M.S. Experimental Psychology. Western Washington University (2010)
- Advisor: Dr. Kristi Lemm
- Thesis: The Development of Preference in the Absence of Attention

B.A. Psychology. Cum laude with honors. The Catholic University of America (2004)
- Advisor: Dr. Carol Glass

Research Interests:
- Categorization, Decision-making, Attention, fMRI.
- Computational and multivariate neuroimaging methods.

Publications:

- Braunlich, K. & Seger, C. A. (2015). Categorical evidence, confidence and urgency during probabilistic categorization. *Neuroimage,* in press.
- Braunlich, K., Gomez-Lavin, J. & Seger, C. A. (2015). Frontoparietal networks involved in categorization and item working memory. *NeuroImage, 107*, 146–162.
- Seger, C. A., Braunlich, K., Wehe, H. S., & Liu, Z. (2015). Generalization in category learning: The roles of representational and decisional uncertainty. *The Journal of Neuroscience,* 35(23), 8802-8812.
- Liu, Z., Braunlich, K., Wehe, H., & Seger, C. A. (2015). Neural networks supporting switching, hypothesis testing, and rule application. *Neuropsychologia, 77,* 19-34.
- Seger, C. A. & Braunlich, K. (2015). Categorization. In: Brain Mapping: An Encyclopedic Reference. Toga A. W., Poldrack, R. A. (Eds.) Amsterdam: Elsevier.
- Braunlich, K., & Seger, C. A. (2013). The basal ganglia. *Wiley Interdisciplinary Reviews: Cognitive Science, 4*(2), 1315-148.

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Publications in Preparation:
- Braunlich, K. & Seger, C.A. Decision-making, generalization, and strategic control of the category boundary. (data collection complete)
- Seger, C.A. & Braunlich, K. Perceptual and reward-based uncertainty during perceptual decision-making. (data collection complete)
- Braunlich, K. & Seger, C. A. Goal-directed influences on the accumulation of probabilistic categorical information. (data collection complete)
- Braunlich, K., Seger, C.A., Kluger, B.M. & Thaut, M. The beneficial effects of rhythmic auditory stimulation for the production of voluntary motor movements in patients with Parkinson's Disease. (data collection underway)
- Braunlich, K. & Wheeler, M.E. Differences in category-specific evidence accumulation with healthy aging. (data collection underway)

Awards:
- Graduate Student Research Grant, Western Washington University: $600 to support my research concerning the development of preference in the absence of attention, 2009.
- Travel Award from Colorado State University for the Annual Meeting of the Cognitive Neuroscience Society, 2015
- United States Olympic Committee: Development Coach of the Year, 2004

Grant Applications in Preparation:
- Seger, C. A., Braunlich, K. & Thaut, M. Neural substrates underlying the beneficial effects of rhythmic auditory stimulation on the production of voluntary motor movements in Parkinson's disease.

Presentations:
- Thaut, M, Braunlich, K. & Seger, C. A. (2015). The Beneficial Effects of Rhythmic Auditory Stimuli for the Production of Voluntary Motor Movements in Parkinsons Disease. Poster (to be) presented at the Society for Neuroscience annual meeting.
- Braunlich, K. & Seger, C. A. (2015). The Accumulation of Probabilistic Categorical Information. Poster presented at the Organization of Human Brain Mapping annual meeting..
- Braunlich, K. & Seger, C. A. (2015). The Accumulation of Probabilistic Categorical Information. Poster presented at the Cognitive Neuroscience Society annual meeting.
- Seger, CA & Braunlich, K. (2015). Decision Making and the Strategic Control of Generalization. Poster presented at the Cognitive Neuroscience Society annual meeting.
- Braunlich, K. & Seger, C. A. (2015). The Accumulation of Probabilistic Categorical Information. Poster presented at the Front-Range Neuroscience Group annual meeting.

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- Dimond, A. J., Braunlich, K., & Seger, C. A. (2013). FMRI and Behavioral Investigation of Categorical Evidence Integration. Poster session presented at the Association for Psychological Sciences annual meeting.
- Braunlich, K., Fan, G., & Seger, C. A. (2012). The Accumulation of Information for Categorization. Poster presented at the Society for Neuroscience annual meeting.
- Braunlich, K., Gomez-Lavin, J., & Seger, C. A. (2012) Shared and Distinct Frontal, Parietal and Striatal Bases for Item and Category Working Memory. Poster presented at the Organization for Human Brain Mapping annual meeting.
- Gomez-Lavin, J., Braunlich, K., Seger, C. A. & Horwitz, Z. (2012). Frontal-Parietal Network Differences for Item and Category Working Memory. Poster presented at the CURC annual conference at CSU.
- Gomez-Lavin, J., Braunlich, K. & Seger, C. A. (2012). Frontal-Parietal Network Differences for Item and Category Working Memory. Poster presented at the Cognitive Neuroscience Society annual meeting.
- Gomez-Lavin, J., Braunlich, K. & Seger, C. A. (2012). Frontal-Parietal Network Differences for Item and Category Working Memory. Poster presented at the Southern Society of Philosophy and Psychology annual meeting.
- Spiering, B. J., Braunlich., K. & Seger, C. A. (2011). An fMRI Study of the Basal Ganglia's Role in Multiple Category-Learning Systems. Poster presented at the Cognitive Neuroscience Society annual meeting.
- Spiering, B. J., Braunlich, K., & Seger, C. A. (2011). Switching Between Category Learning Systems: An fMRI Study. Poster presented at the Executive Function and Emotion Conference at the University of Colorado, Boulder.
- Spiering, B. J. Braunlich, K., & Seger, C. A. (2011). Switching Between Category-Learning Systems: An fMRI Study. Molecular, Cellular and Integrative Neuroscience Conference at Colorado State University.
- Braunlich, K. & Lemm, K. M. (2010). Thought in the Absence of Attention. Talk presented at the Northwest Cognition and Memory annual meeting.

Teaching Experience:
Lab Instructor, Colorado State University
- Cognitive Neuroscience Laboratory
- Cognitive Psychology Laboratory
- Biophysical Psychology Laboratory

Teaching Assistant, Colorado State University
- Introduction to Psychology
- Research Methods

Lab Instructor, Western Washington University
- Research Methods

Teaching Assistant, Western Washington University
- Introduction to Psychology
- Experimental Approaches in Research

Service:

- Ad hoc reviewer for Memory and Cognition
- Referee for the Journal of Undergraduate Research and Scholarly Excellence

Research Positions:
- Post Doctoral Scholar, Cognition and Brain Sciences, The Georgia Institute of Technology (2015 - July 2016).
    - Advisor: Dr. Mark Wheeler
- Graduate Research Assistant, Colorado State University (2010-2015).
    - Advisor: Dr. Carol Seger
- Graduate Research Assistant, Western Washington University (2008-2010)
    - Advisor: Dr. Kristi Lemm
- Research Assistant, Capital Clinical Research Associates (2006)
- Research Assistant, The Cognitive Brain Disorders Branch, The National Institute of Mental Health (2004)
    - Advisor: Dr. Terry Goldberg

Previous Experience:
Canadian National Whitewater Slalom Team
- Assistant Coach, Senior National Team (2009)
- Head Coach, Senior National Team (2008)
- Assistant Coach, Senior National Team (2007)
- Head Coach, Junior National Team (2006)
Fraser Valley Regional Development Center for Canoe & Kayak
- Head Coach (2006-2008)
US National Whitewater Slalom Team
- Assistant Coach, Senior National Team (2005)
- Head Coach, Junior National Team (2005)
- Head Coach, Junior National Team (2004)
- Assistant Coach, Junior National Team (2003)

Affiliations:
- Cognitive Neuroscience Society
- Society for Neuroscience

Software Experience:
- Programming: I am fluent in Matlab, and Python and use R occasionally.
    - I use Matlab for stimulus presentation (psychtoolbox), neuroimaging analyses (SPM & custom scripts), and for much of my data wrangling. I use Python primarily for statistical analyses (nilearn, scikit-learn and pymc).
- Neuroimaging:
    - I work primarily with SPM, but have experience with both FSL and BrainVoyager .