Carol A. Seger

Department of Psychology
Colorado State University
Fort Collins, Colorado 80523
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EDUCATION

1994 - 1998   Postdoctoral Training
Stanford University

1994   Ph. D. in Psychology
Major area Cognitive Psychology, minor area Behavioral Neuroscience
University of California, Los Angeles

1991   M. A. in Psychology
University of California, Los Angeles

1987   A. B. *cum laude* in Psychology. Cognitive Science concentration
Harvard University.

ACADEMIC POSITIONS

2010 - present   Professor, Department of Psychology, Colorado State University
2014-present   Visiting Professor, Department of Psychology, South China Normal University, Guangzhou, China
2016 - 2020   Director, Molecular, Cellular, and Integrative Neurosciences Program Colorado State University
2015-2017   Chang Jiang Scholar Chair Professor, South China Normal University
2015- present   Co-Director, SCNU-CSU International Laboratory for the Study of Mind and Brain
2004 - 2010   Associate Professor, Colorado State University
2005 - 2006   Visiting Scholar, Department of Psychology, Stanford University
2005 - 2006   Visiting Scholar, Department of Psychology and Helen Wills Neurosciences Institute. University of California at Berkeley.
1998 - 2004   Assistant Professor, Colorado State University

HONORS AND AWARDS

2021   Nominated for Professor Laurate, College of Natural Sciences, Colorado State University
2015   Chang Jiang Scholar Chair Professor award, Ministry of Education, China
2014   Foreign Experts Recruitment Award, Ministry of Education, China
2013   Fellow, Association for Psychological Science
2010   *NeuroImage* Editor's choice award for best paper in Systems Neuroscience
1994 - 1997   National Research Service Award from the National Institute of Mental Health "Cognitive Neuropsychology of Implicit Learning"

1989 - 1990   University Fellowship, University of California, Los Angeles
1987   B. A. cum laude, Harvard and Radcliffe colleges
1983   National Merit Scholar

PUBLICATIONS

Liu, Z., Cai, L., Liu, C., & Seger, C. A. (2024). The tail of the caudate is sensitive to both gain and loss feedback during information integration categorization. *Brain and Cognition*, *178*, 106166.

Xu, C., Hou, G., He, T., Ruan, Z., Guo, X., Chen, J., Wei, Z., Seger, C. A., Chen, Q., & Peng, Z. (2024). Local structural and functional MRI markers of compulsive behaviors and obsessive–compulsive disorder diagnosis within striatum-based circuits. *Psychological Medicine*, *54*(4), 710–720.

Chen, F., Li, P., Chen, H., Seger, C. A., & Liu, Z. (2024). Prototype or Exemplar Representations in the 5/5 Category Learning Task. *Behavioral Sciences*, *14*(6), 470.

Huo, H., Lesage, E., Dong, W., Verguts, T., Seger, C. A., Diao, S., Feng, T., & Chen, Q. (2023). The neural substrates of how model-based learning affects risk taking: Functional coupling between right cerebellum and left caudate. *Brain and Cognition*, *172*, 106088.

Ruan, Z., Seger, C. A., Yang, Q., Kim, D., Lee, S. W., Chen, Q., & Peng, Z. (2023). Impairment of arbitration between model-based and model-free reinforcement learning in obsessive–compulsive disorder. *Frontiers in Psychiatry*, *14*, 1162800.

Pan, Y., Xu, C., He, T., Wei, Z., Seger, C. A., Chen, Q., & Peng, Z. (2023). A network perspective on cognitive function and obsessive-compulsive related symptoms. *Journal of Affective Disorders*, *329*, 428–437.

Li, S., Seger, C. A., Zhang, J., Liu, M., Dong, W., Liu, W., & Chen, Q. (2023). Alpha oscillations encode Bayesian belief updating underlying attentional allocation in dynamic environments. *NeuroImage*, *284*, 120464.

Huang, L., Wang, J., He, Q., Li, C., Sun, Y., Seger, C. A., & Zhang, X. (2023). A source for category-induced global effects of feature-based attention in human prefrontal cortex. *Cell Reports*, *42*(9), 113080.

Pan, Y., Xu, C., He, T., Wei, Z., Seger, C. A., Chen, Q., & Peng, Z. (2023). A network perspective on cognitive function and obsessive-compulsive related symptoms. *Journal of Affective Disorders*, *329*, 428–437.

Liu, Z., Liao, S., & Seger, C. A. (2023). Rule and Exemplar-based Transfer in Category Learning. *Journal of Cognitive Neuroscience*, *35*(4), 628–644.

Wu, X., Yang, Q., Xu, C., Huo, H., Seger, C. A., Peng, Z., & Chen, Q. (2023). Connectome-based predictive modeling of compulsion in obsessive–compulsive disorder. *Cerebral Cortex*, *33*(4), 1412–1425.

Zhang, S., Wang, Y., Zheng, S., Seger, C., Zhong, S., Huang, H., Hu, H., Chen, G., Chen, L., Jia, Y., Huang, L., & Huang, R. (2022). Multimodal MRI reveals alterations of the anterior insula and posterior cingulate cortex in bipolar II disorders: A surface-based approach. *Progress in Neuro-Psychopharmacology and Biological Psychiatry*, *116*, 110533.

Dong, W., Luo, J., Huo, H., Seger, C. A., & Chen, Q. (2022). Frontostriatal Functional Connectivity Underlies the Association between Punishment Sensitivity and Procrastination. *Brain Sciences*, *12*(9), 1163

Chen, Q., Liu, M., Wen, R., Xu, C., Wei, Z., Zhang, W., Seger, C. A., & Peng, Z. (2022). Dysfunction of goal-directed control in patients with depression and nonsuicidal self-injury. *Brain and Behavior*, *12*(6), e2607.

Peng, Z., He, L., Wen, R., Verguts, T., Seger, C. A., & Chen, Q. (2022). Obsessive-compulsive disorder is characterized by decreased Pavlovian influence on instrumental behavior. *PLOS Computational Biology, 18*(10), e1009945.

Zhou, D., Cai, Q., Luo, J., Yi, Z., Li, Y., Seger, C. A., & Chen, Q. (2021). The neural mechanism of spatial-positional association in working memory: A fMRI study. *Brain and Cognition, 152*, 105756.

Xu, C., Hou, G., He, T., Ruan, Z., Chen, J., Wei, Z., Seger, C. A., Chen, Q., & Peng, Z. (2022). Imbalance in Functional and Structural Connectivity Underlying Goal-Directed and Habitual Learning Systems in Obsessive-Compulsive Disorder. *Cerebral Cortex*, 32, 17, 3690-3705.

Peng, Z., Guo, Y., Wu, X., Yang, Q., Wei, Z., Seger, C. A., & Chen, Q. (2021). Abnormal brain functional network dynamics in obsessive–compulsive disorder patients and their unaffected first-degree relatives. *Human Brain Mapping, 42*(13), 4387–4398.

Li, Y., Seger, C., Chen, Q., & Mo, L. (2020). Left Inferior Frontal Gyrus Integrates Multisensory Information in Category Learning. *Cerebral Cortex, 30,* 4410-4423.

Liu, Z., Zhang, Y., Ma, D., Xu, Q., & Seger, C. A. (2020). Differing effects of gain and loss feedback on rule-based and information-integration category learning. *Psychonomic Bulletin & Review*.

Huo, H., Seger, C. A., Zhou, D., Chen, Z., Xu, T., Zhang, R., Feng, T., & Chen, Q. (2020). The assessment dimension of regulatory mode mediates the relation between frontoparietal connectivity and risk-taking: Evidence from voxel-base morphometry and functional connectivity analysis. *Brain and Cognition, 140*, 105533.

Huo, H., Zhang, R., Seger, C. A., Feng, T., & Chen, Q. (2020). The effect of trait anxiety on risk-taking: Functional coupling between right hippocampus and left insula. *Psychophysiology, 57,* e13629.

Wang, J., Liu, Z., Xing, Q., & Seger, C. A. (2020). The benefit of interleaved presentation in category learning is independent of working memory. *Memory, 28,* 285-292.

Dong, C., Yang, Q., Liang, J., Seger, C. A., Han, H., Ning, Y., … Peng, Z. (2020). Impairment in the goal-directed corticostriatal learning system as a biomarker for obsessive–compulsive disorder. *Psychological Medicine, 50,* 1490-1500.

Liu, Z., Lu, W., & Seger, C. A. (2019). Perceptual and categorical processing and representation in color categorization. *Brain and Cognition, 136*, 103617.

Braunlich, K., Seger, C. A., Jentink, K. G., Buard, I., Kluger, B. M., & Thaut, M. H. (2019). Rhythmic auditory cues shape neural network recruitment in Parkinson's disease during repetitive motor behavior. *European Journal of Neuroscience, 49*, 849–858.

Zeithamova, D., Mack, M. L., Braunlich, K., Davis, T., Seger, C. A., van Kesteren, M. T., & Wutz, A. (2019). Brain Mechanisms of Concept Learning. *Journal of Neuroscience, 39*, 8259–8266.

Seger, C.A. (2018). Corticostriatal Foundations of Habits. *Current Opinion in Behavioral Sciences, 20*, 153-160.

Braunlich, K., Liu, Z, & Seger, C.A. (2017). Occipitotemporal category representations are sensitive to abstract category boundaries defined by generalization demands. *The Journal of Neuroscience, 37*, 7631-7642.

Huang, H., Wang, J., Seger, C., Lu, M., Deng, F., Wu, X., He, Y., Niu, C., Wang, J., & Huang, R. (2017). Long-term intensive gymnastic training induced changes in intra-and inter-network functional connectivity: an independent component analysis. *Brain Structure and Function, 223,* 131-144.

Ma, Q., Huang, B., Wang, J., Seger, C., Yang, W., Li, C., et al. (2017). Altered modular organization of intrinsic brain functional networks in patients with Parkinson's disease. *Brain Imaging and Behavior, 11*, 430-443

Braunlich, K., Seger, C.A. (2016). Categorical evidence, confidence, and urgency during

probabilistic categorization. *Neuroimage 125*, 941-952.

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,* 8802-8812.

Liu, Z., Braunlich, K., Wehe, H. S., & Seger, C. A. (2015). Neural networks supporting switching, hypothesis testing, and rule application. *Neuropsychologia, 77, 19-34.*

Liu, Z., Song, X. & Seger, C. A. (2015). An eye-tracking study of multiple feature value category structure learning: The role of unique features. *PLOS One. 10*, e0135729

Wehe, H. S., Rhodes, M. G., & Seger., C. A. (2015). Evidence for the negative impact of reward on self-regulated learning. *The Quarterly Journal of Experimental Psychology, 68*, 2125-2130.

Seger., C. A., & Braunlich, K. (2015). Category Learning. *Brain Mapping: An Encyclopedic Reference*. Elsevier.

Mo, C., Yu, M., Seger., C. A., & Mo, L. (2015). Holistic neural coding of Chinese character forms in bilateral ventral visual system. *Brain and Language, 141,* 28-34.

Braunlich, K., Gomez-Lavin, J., Seger, C.A. (2015). Frontoparietal networks involved in categorization and item working memory. *Neuroimage* 107:146-162.

Braunlich, K. & Seger. C. A. (2013). Basal Ganglia. *Wiley Interdisciplinary Reviews: Cognitive Science. 4*, 135–148.

Lopez-Paniagua, D. & Seger, C. A. (2013). Coding of level of ambiguity within neural systems mediating choice*. Frontiers in Neuroscience*, *7, 229.*

Peterson, E. J. & Seger, C. A. (2013). Many hats: Intra-Trial and Reward-Level Dependent BOLD Activity in the Striatum and Premotor Cortex. *Journal of Neurophysiology,110,* 1689-1702.

Ryals, A. J., Cleary, A. M., & Seger, C. A. (2013). Recall versus familiarity when recall fails for words and scenes: The differential roles of the hippocampus, perirhinal cortex, and category-specific cortical regions. *Brain Research*, *1492*, 72-91.

Seger, C. A. (2013). The visual corticostriatal loop: Circuitry and function. *Frontiers in Systems Neuroscience, 7, 104.*

Seger, C. A. & Peterson, E. J. (2013). Categorization = Decision Making + Generalization. *Neuroscience and Biobehavioral Reviews*, *37*, 1187-1200

Seger, C. A , Spiering, B. J., Sares, A., Alpeter, C. Quraini, S., David, J., & Thaut, M. (2013). Corticostriatal contributions to musical expectancy perception. *Journal of Cognitive Neuroscience, 25*, 1062–1077.

Seger, C. A. & Spiering, B. A. (2011). A critical review of habit learning and the basal ganglia. *Frontiers in Systems Neuroscience*, 5, 1-6.

Lopez-Paniagua, D. & Seger, C. A. (2011). Interactions within and between corticostriatal loops during component processes of category learning. *Journal of Cognitive Neuroscience, 23*, 3068-83.

Seger, C. A., Dennison, C. S., Lopez-Paniagua, D., Peterson, E. J., & Roark A. (2011). Dissociating hippocampal and basal ganglia contributions to category learning using stimulus novelty and subjective judgments. *NeuroImage, 55,* 1739-1753.

Seger, C A. & Miller, E. K. (2010) Category learning in the brain. *Annual Review of Neuroscience. 33*, 203-219.

Seger, C. A., Peterson, E. J., Cincotta, C. M., Lopez-Paniagua, D., & Anderson, C. W. (2010). Dissociating the contributions of independent corticostriatal systems to visual categorization learning through the use of reinforcement learning modeling and Granger causality modeling. *Neuroimage, 50*, 644-56.

Schmidt, G. & Seger, C. A. (2009). Neural correlates of metaphor processing: The roles of

figurativeness, familiarity and difficulty. *Brain and Cognition, 71,* 375-386.

Seger, C. A. (2009). The involvement of corticostriatal loops in learning across tasks, species, and methodologies.   *Basal Ganglia IX: Proceedings of the International Basal Ganglia Society. Advances in Behavioral Biology series*; Springer Publishers.

Richard, M. V., Clegg, B. A., & Seger, C. A. (2009). Implicit motor sequence learning is not represented purely in response locations. *Quarterly Journal of Experimental Psychology*, *62*, 1516-1522.

Seger, C. A. (2008). How do the basal ganglia contribute to categorization? Their roles in generalization, response selection, and learning via feedback. *Neuroscience and Biobehavioral Reviews, 32,* 265-278.

Cincotta, C. M & Seger, C. A. (2007) Dissociation between striatal regions while learning to categorize via observation and via feedback. *Journal of Cognitive Neuroscience, 19*, 249-265.

Schmidt, G. L., DeBuse, C. J. & Seger, C. A. (2007). Right hemisphere metaphor processing? Characterizing the lateralization of semantic processes. *Brain and Language, 100,* 127-141.

Seger, C. A. & Cincotta, C. M. (2006). Dynamics of frontal, striatal, and hippocampal systems in rule learning. *Cerebral Cortex,16*, 1546-1555

Seger, C. A. (2006). The basal ganglia in human learning. *The Neuroscientist. 12*, 285-290.

Seger, C. A. & Cincotta, C. M. (2005). The roles of the caudate nucleus in human classification learning. *Journal of Neuroscience, 25*, 2541-2551.

Seger, C. A. (2005). Long term memory. In N. Salkin (Ed.) *The encyclopedia of human development.* Thousand Oaks, CA: Sage.

Seger, C. A. (2004). Does implicit learning require attention? *Contemporary Psychology*, 49, 717-719. [Review of L. Jimenez (Ed.) Attention and Implicit Learning].

Seger, C. A., Stone, M., & Keenan, J. P. (2004). Cortical activations during judgments about the self and an other person. *Neuropsychologia*, 42, 1168-1177.

Kisley, M. A., Davalos, D. B., Layton, H., Pratt, D., Ellis, J., & Seger, C. A. (2004). Small changes in temporal deviance modulate mismatch negativity amplitude. *Neuroscience Letters, 358*, 197-200.

Seger, C. A. (2003). Does the SOC theory avoid unconscious rule use? *Behavioral and Brain Sciences, 25,* 353.

Seger, C.A., & Cincotta, C. M. (2002). Striatal activation in concept learning. *Cognitive, Affective, & Behavioral Neuroscience*, 2, 149-161.

Seger, C. A., Desmond, J. E., Glover, G. H, & Gabrieli, J. D. E. (2000). FMRI evidence for right hemisphere involvement in processing unusual semantic relationships. *Neuropsychology, 14*, 361-369.

Seger, C. A., Poldrack, R. A., Prabhakaran. V., Zhao, M., Glover, G., & Gabrieli, J. D. E. (2000). Hemispheric asymmetries and individual differences in visual concept learning as measured by functional MRI. *Neuropsychologia, 38*, 1316-1324.

Seger, C. A., Prabhakaran. V., Poldrack, R. A., & Gabrieli, J. D. E. (2000). Neural activity differs between explicit and implicit learning of artificial grammar strings: An fMRI Study. *Psychobiology, 28,* 283-292.

Seger, C.A., Rabin, L. A., Desmond, J. E., & Gabrieli, J. D. E. (1999). Verb generation priming involves conceptual implicit memory. *Brain and Cognition, 41,* 150-177.

Poldrack, R. A., Prabhakaran, V., Seger, C. A., & Gabrieli, J. D. E. (1999). Striatal activation during cognitive skill learning. *Neuropsychology, 13,* 564-574.

Seger, C. A. (1998). Independent judgment-linked and motor-linked mechanisms in artificial grammar learning. *Consciousness and Cognition, 7,* 259-284.

Seger, C. A. (1997). Multiple forms of learning in implicit learning. In M. Stadler & P.

Frensch (Eds.) *Handbook of Implicit Learning.* New York: Sage.

Seger, C. A., Rabin, L. A., Zarella, M., & Gabrieli, J. D. E. (1997). Preserved verb generation priming in global amnesia. *Neuropsychologia,35,* 1069-1074

Seger, C. A. (1997). Two forms of sequential implicit learning. *Consciousness and Cognition, 6,* 108-131.

Seger, C. A. (1994). Multiple mechanisms in implicit learning. In *Proceedings of the 16th Annual Conference of the Cognitive Science Society*, 794-799, Hillsdale, NJ: Lawrence Erlbaum.

Seger, C. A. (1994). Implicit learning. *Psychological Bulletin, 115,* 163-196.

Seger, C. A. (1994). Criteria for implicit learning: De-emphasize conscious access, emphasize amnesia. *Behavioral and Brain Sciences, 17*, 421-422.

Seger, C. A. (1992). Implicit learning. UCLA Cognitive Science Research Program Technical Report #UCLA-CSRP-92-3.

Kosslyn, S. M., Seger, C., Pani, J. R., & Hillger, L. A. (1990). When is imagery used in everyday life? A diary study. *Journal of Mental Imagery, 14,* 131-152.

CONTRACTS & GRANTS

2015 - open   SCNU-CSU Joint International Laboratory for the Study of Mind and Brain
South China Normal University, Guangzhou, China

2015 – 2017   Chang Jiang Scholars Program
Ministry of Education, China

2007 – 2013   Corticostriatal Networks in Human Categorization.
R01MH079182
National Institute of Mental Health.
Role: Principal Investigator

2001 - 2003   Neural Correlates of Concept Learning.
R03MH063784
National Institute of Mental Health.
Role: Principal Investigator

1994 - 1997   Neural Substrates of Implicit Learning.
National Research Service Award Post-doctoral fellowship,
National Institute of Mental Health.

INVITED / REFERREED PRESENTATIONS AT PROFESSIONAL MEETINGS

Seger, C. A. (2023). Recent research in the neural representation of categories and concepts: Implications for neuroaesthetics. 2023 International Symposium on Neuroaesthetics.

Seger, C. A. (2020). Corticostriatal networks supporting visuomotor coordination during categorization. Fifteenth Annual Bernstein Conference.

Seger, C. A. (2019). Integration of Reward and Representation in Categorization, Society for Neuroscience.

Seger, C. A. (2017). The Challenge of Generalization for the Learning Sciences:

Evidence from Neural Systems. Inaugural Conference of the South China Normal University Center for Learning Sciences.

Seger, C. A. (2015). What are habits, what do they have to do with the basal ganglia, and why does it matter? Presented at the Advances in the Science of Habits conference, University of Southern California.

Seger, C. A. (2010). Subjective experience of basal ganglia dependent learning. Presented at the triennial meeting of the International Basal Ganglia Society.

Seger, C. A. (2008). The contributions of the basal ganglia to sequencing and rule learning in language. Presented at the symposium on Language, Mind, and Brain: Mechanisms of Learning, Brain Plasticity, and Critical Periods, McGill University.

Seger, C. A. (2007). The many roles of the basal ganglia in human visual categorization: visual analysis, response selection, and learning via feedback. Presented at the triennial meeting of the International Basal Ganglia Society.

Seger. C. A. (2005). Corticostriatal networks in category learning. Presented at the first meeting of the Computational Cognitive Neuroscience society.

OTHER INVITED PRESENTATIONS

Seger, C. A. (2023) Neural systems underlying category learning: Implications for understanding language. Invited Lecture at Guangxi Normal University.

Seger, C. A. (2023). A new view of the neural systems underlying category learning. Invited Lecture at Ohio State University.

Seger, C. A. (2023) The intersection of learning and reward in the brain. Invited Lecture at Guangzhou University of Traditional Chinese Medicine.

Seger, C. A. (2019) Neuroeconomics: Making Decisions to Gain Rewards, Invited Lecture at Guangzhou Financial University.

Seger, C. A. (2015). The basal ganglia and corticostriatal networks in learning and decision making. Talk presented to the Neuroscience program, Pennsylvania State University, State College, PA.

Seger, C. A. (2014). Categorization: An Emergent Function of Distributed Neural Systems. Talk presented to the Department of Psychology, East China Normal University, Shanghai, China.

Seger, C. A. (2014). Categorization: An Emergent Function of Distributed Neural Systems. Talk presented to the Department of Psychology, Beijing Normal University, Beijing, China

Seger, C. A. (2014). Category learning and decision making in the corticostriatal system. Talk presented to the Department of Psychology, Southwest University, Chongqing, China

Seger, C. A. (2013). Categorization = Decision Making + Generalization + Learning. Talk presented to the Institute of Cognitive Science, University of Arizona, Tucson.

Seger, C. A. (2012). The visual corticostriatal loop: Perceptual category learning and category working memory. Talk presented to the Institute for Cognitive Neuroscience, Beijing Normal University, Beijing, China.

Seger, C. A. (2012). Decision making and learning in the corticostriatal system Talk presented to the Department of Psychology, University of Hong Kong, Hong Kong.

Seger, C. A. (2012). Learning in the Corticostriatal System. Talk presented to the Department of Psychology, East China Normal University, Shanghai, China.

Seger, C. A. (2012). Category learning in the brain. Talk presented to the Department of Psychology, South China Normal University, Guangzhou, China.

Seger, C. A. (2011). Decision making and learning in the corticostriatal system. Talk presented to the Institute of Cognitive Science, University of Colorado, Boulder.

Seger, C. A. (2007). Exploring the many contributions of the basal ganglia to human learning and

cognition using fMRI. Talk presented to the Department of Cognitive Science, University of California San Diego.

Seger. C. A. (2007). Roles of the Basal Ganglia in Human Cognition: Visual Analysis, Response Selection, and Learning via Feedback. Talk presented to the Brain Imaging Center, University of Colorado Health Sciences Center.

Seger, C. A. (2006). Categories and the caudate: How corticostriatal networks subserve human associative learning. Talk presented to the Department of Psychology, Stanford University.

Seger, C. A. (2006). Categories, their consequences, and the caudate. Talk presented to the Institute of Cognitive Science, University of California, Berkeley.

Seger, C. A. (2006). Categories, cortex, and the caudate. Talk presented to the Department of Psychology, University of California, Los Angeles.

Seger, C. A. (2005). Roles of the Basal Ganglia in learning. Talk presented in the Brain Imaging Colloquium series, Stanford University.

Seger, C. A. (2003). FMRI studies of the striatal learning system. Talk presented to the Department of Psychology, University of Colorado, Boulder.

PRESENTATIONS AT PROFESSIONAL MEETINGS

Seger, C. A. (October, 2019). Integration of Reward and Representation in Categorization, Society for Neuroeconomics.

Seger, C. A. (October, 2018). Goal-directed temporal modulation of probabilistic decision-making: The roles of the VMPFC and hippocampus, Society for Neuroeconomics.

Braunlich, K., Jentink, K.G., Kluger, B., Thaut, M.H., & Seger, C.A. (March, 2017). Rhythmic auditory cues shape neural network plasticity underlying motor control in Parkinson's disease Poster presented at triennial meeting of the International Basal Ganglia Society (IBAGS), Merida, Yucatan, Mexico.

Jentink, K. G., Wilson, A. I., Mechtenberg, H., & Seger, C. A. (November, 2016). Effector specificity in procedural category learning. Poster presented at Society for Neuroscience, San Diego, California.

Braunlich, K., & Seger, C. A. (2015) FMRI investigation of the accumulation of categorical information. Poster presented at the Cognitive Neuroscience Society Annual Meeting.

Braunlich, K., & Seger, C. A. (2015) Strategic control of generalization during categorization. Poster presented at the Cognitive Neuroscience Society Annual Meeting.

Braunlich, K., & Seger, C. A. (2015) Multiple Feature Integration and Urgency in Categorization Decisions. Poster presented at the meeting of the Organization for Human Brain Mapping.

Wehe, H.S. & Seger, C. (2014). Intrinsic Motivation to Learn: Can Individual Goals Decrease Susceptibility to the Undermining Effect? Poster presented at the Psychonomics Society Annual Meeting, Long Beach, CA.

Wehe, H.S., Liu Z., Braunlich, K,, & Seger, C. (2014), Neural Systems Involved in Rule Learning and Switching. Poster presented at the Cognitive Neuroscience Society Annual Meeting, Boston, MA.

Peterson, E. J. & Seger, C.A. (2013). A precise problem in model-based fmri? Poster presented at the meeting of the Cognitive Neuroscience Society.

Peterson, E. J. & Seger, C.A. (2013). Evidence for generalizable reward representations in the basal ganglia examined using fMRI and reinforcement learning Poster presented at the triennial meeting of the International Basal Ganglia Society.

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 meeting of the Organization for Human Brain Mapping.

Braunlich, K., Mussell, K., Fan, G. & Seger, C. A. (2012). An fMRI investigation of the accumulation of information for categorization. Poster presented at the Society for Neuroscience Annual Meeting.

Gomez-Lavin, J. Braunlich, K., & Seger, C. A. (2012). Frontal-Parietal Network Differences in Item and Category Working Memory. Poster presented at the meeting of the Cognitive Neuroscience Society.

Gomez-Lavin, J. Braunlich, K., & Seger, C. A. (2012) Frontal-Parietal Network Differences in Item and Category Working Memory. Poster presented at the meeting of the Society for Philosophy and Psychology.

Ryals, A. J., Cleary, A. M., & Seger, C. A. (2012) An Investigation into the Nature of Partial Recollection Poster presented at the 51st annual meeting of the Psychonomic Society.

Wehe, H., Seger, C., Smith, M., & Peterson, E. (2012). Conflicting Uncertainty: Dissociating generalization and conflict during categorization. Poster presented at the Society for Neuroscience Annual Meeting.

Ryals, A. J., Cleary, A. M. & Seger, C. A. (2011) Recollection and Familiarity for Words and Scenes: Shared and Independent Neural Components Poster presented at the meeting of the Cognitive Neuroscience Society.

Spiering, B. J., Sares, A., Thaut, M. & Seger, C. A. (2011) Expectancy violation and functional connectivity in musical syntax processing. Poster presented at the meeting of the Society for Neuroscience.

Spiering, B. J., Braunlich, K., & Seger, C. A. (2011) An fmri study of the basal ganglia's role across multiple category-learning systems Poster presented at the meeting of the Cognitive Neuroscience Society.

Lopez-Paniagua, D. & Seger, C. (2010). Effective connectivity within and between corticostriatal loops during category learning. Poster presented at the 10th meeting of the International Basal Ganglia Society.

Lopez-Paniagua, D., & Seger, C. (2010). Risky business: disambiguating ambiguity. Poster presented at the 4th annual meeting of the Social and Affective Neuroscience Society.

Lopez-Paniagua, D., Seger, C., & Rhodes, M. (2010). Adaptive decision making under varying levels of ambiguity. Poster presented at the 51st annual meeting of the Psychonomic Society.

Peterson, E. J. & Seger, C. A. (2010). Many hats: using fMRI to characterize the roles and reward sensitivity of the striatum across stimulus, response and feedback Poster presented at the 10th meeting of the International Basal Ganglia Society.

Ryals, A. J., Pichardo, F. M., Lopez-Paniagua, D. Cleary, A. M., & Seger, C. A. (2010) Functional Magnetic Resonance Imaging (fMRI) Correlates of Recognition without Cued-Recall. Poster presented at the meeting of the Cognitive Neuroscience Society.

Seger, C. A., Dennison, C. S., Lopez-Paniagua, D Peterson, E. J., & Roark A. Dissociating hippocampal and basal ganglia contributions to category learning using stimulus novelty and subjective judgments. Poster presented at the Society for Neuroscience Annual Meeting.

Spiering, B. J., Gonzalez, A. H., & Seger, C. A (2010). An Investigation into Category Learning System Switching. Poster presented at the Society for Neuroscience Annual Meeting.

Spiering, B. J., & Seger, C. A (2010). An Investigation into Category Learning System Switching. Poster presented at the 17th Annual Meeting of Cognitive Neuroscience Society.

Thaut, M. , Spiering, B. J., Alpeter, C. Quraini, S. L., Sares, A., & Seger, C. A. (2010).

Brain basis of expectancy in musical cadence perception. Poster presented at the Front Range Neuroscience Group Annual Meeting.

Thaut, M. , Spiering, B. J., Alpeter, C. Quraini, S. L., Sares, A., & Seger, C. A. (2010). Brain basis of expectancy in musical cadence perception. Poster presented at the Society for Neuroscience Annual Meeting.

Seger, C. A. & Anthony, A. (2009) Cortical and striatal sensitivity to decision bound and perceptual similarity in visual categorization. Talk presented at the meeting of the Society for Neuroscience.

Spiering, B. J., Ennis, J. F., Ashby, F. G., & Seger, C. A. (2009) Neural Correlates of Information-Integration Category Learning. Poster presented at the meeting of the Society for Neuroscience

Peterson, E., Seger, C. A., (2009) Reward-level dependent activity proceeding and following response selection: an fMRI study. Poster presented at the meeting of the Society for Neuroscience.

Seger, C. A. , Peterson, E., Lopez-Paniagua, D. & Cincotta, C. (2009, March). Exploring the contributions of corticostriatal loops to categorization using temporal difference modeling and Granger causality modeling. Poster presented at the meeting of the Cognitive Neuroscience Society, San Francisco.

Lopez-Paniagua, D. & Seger, C. A. (2009, March). Effective and structural connectivity of the executive and motivational corticostriatal loops underlying feedback processing. Poster presented at the meeting of the Cognitive Neuroscience Society, San Francisco.

Richard, M. V., Clegg, B. A., Verwey, W. B., & Seger, C. A. (2008, November). Quantity of Practice Leads to Effector-Dependent Leaning in the Serial Reaction Time Task. Poster presented at the 49th Annual Meeting of the Psychonomic Society, Chicago, Illinois.

Peterson, E. & Seger, C. A. (2008, April). To do the right thing: Temporal difference learning as a tool to dissect the role of feedback in the striatum. Presented at the meeting of the Cognitive Neuroscience Society, San Francisco.

Lopez-Paniagua, D. & Seger, C. A. (2008, April). Temporal dynamics of feedback processing in the dorsal and ventral striatum are modulated by learning and expectancy. Poster presented at the meeting of the Cognitive Neuroscience Society, San Francisco.

Seger, C. A. (2007, November). Four lessons from cognitive neuroscience for the field of category learning. Talk presented at the meeting of the Psychonomic Society.

Richard, M. V., Clegg, B. A., & Seger, C. A. (2007, August). Response Types and Movements in Sequence Learning. Poster presented at the 115th Annual Meeting of the American Psychological Association, San Francisco, California.

Seger, C. A., Lopez-Paniagua, D., DeGutis, J. M., & Cincotta, C. M. (2007, April). Categorization in the visual corticostriatal loop. Poster presented at the Cognitive Neuroscience Society meeting.

Lopez-Paniagua, D., Richard, M. V., Towne, M. Seger, C. A. (2007, April). Modulation of the feedback related negativity by expectation and learning in a categorization task. Poster presented at the meeting of the Cognitive Neuroscience Society.

Richard, M. V., Clegg, B. A., & Seger, C. A. (2006, November). Of Mice and Movement: Using a Computer Mouse in the Serial Reaction Time Task. Poster presented at the 47th Annual Meeting of the Psychonomic Society, Houston, Texas.

Seger, C. A. & Cincotta, C. M. (2006, April). Dynamics of striatal, cortical, and hippocampal systems during rule learning. Poster presented at the 13th meeting of the Cognitive Neuroscience Society, San Francisco.

Seger, C. A. & Cincotta, C. M. (2004, October). Neural systems underlying hypothesis testing, rule application, set shifting, and feedback processing in a concept learning task. Talk presented at the meeting of the Society for Neuroscience, San Diego, California.

Schmidt, G. L. & Seger, C. A. (2004, October). Neural correlates of metaphor processing. Poster presented at the 44th meeting of the Society for Psychophysiological Research, Santa Fe.

Philippe, M., Dakin, M. A., & Seger, C. A. (2004, October). ERP differences to grammatical and nongrammatical letters in an artificial grammar learning paradigm. Poster presented at the 44th meeting of the Society for Psychophysiological Research, Santa Fe.

Schmidt, G. L. & Seger, C. A. (2004, April). Neural correlates of metaphor processing. Poster presented at the 11th meeting of the Cognitive Neuroscience Society, San Francisco.

Seger, C. A. & Cincotta, C. M. (2004, April). Effects of feedback and stimulus-outcome contingency on striatal involvement in categorization. Poster presented at the 11th meeting of the Cognitive Neuroscience Society, San Francisco.

Seger, C. A. (2003, April). The role of medial cortical regions in self-related and other person-related judgments. Poster presented at the 10th meeting of the Cognitive Neuroscience Society, New York.

Schmidt, G. L., & Seger, C. A. (2003, April). ERP studies of verb generation. Poster presented at the Cognitive Neuroscience Society 10th Annual Meeting, New York, NY.

Schmidt, G. L., & Seger, C. A. (2002, November). ERP studies of verb generation. Poster presented at the 43rd meeting of the Psychonomic Society, Kansas City, Missouri.

Cincotta, C. & Seger, C. A. (2002, April). Differences in event related potentials as a function of category learning mode. Poster presented at the 9th meeting of the Cognitive Neuroscience Society, San Francisco.

Kisley, M. A., Davalos, D. B., Layton, H., Pratt, D., Ellis, J., & Seger, C. A. (2002, April). Small changes in temporal deviance modulate mismatch negativity amplitude. Poster presented at the meeting of the Rocky Mountain Psychological Society, Salt Lake City, UT.

Seger, C. A. (2001, April). Neural systems associated with rule formation and rule application in concept learning. Poster presented at the 8th meeting of the Cognitive Neuroscience Society, New York.

DeLosh, E. L, Peterson, D. A., Cincotta, C. M., Merritt, P. S., Seger, C. A., & Reilly, C. N. (2000, April). Electrophysiological correlates of negative priming. Poster presented at the 7th meeting of the Cognitive Neuroscience Society, San Francisco.

Dakin, M., Seger, C. A., Cincotta, C. M., Peterson, D. A., Merritt, P. S., & DeLosh, E. L. (2000, April). Neural correlates of inhibition in negative priming: An fMRI study. Poster presented at the 7th meeting of the Cognitive Neuroscience Society, San Francisco.

Cincotta, C. M., & Seger, C. A. (2000, April). An fMRI study of expert and novice categorization. Poster presented at the 7th meeting of the Cognitive Neuroscience Society, San Francisco.

Merritt, P. S., Peterson, D. A., Cincotta, C. M., DeLosh, E. L., Seger, C. A., & Reilly, C. N. (2000, April). ERP correlates of false recognition. Poster presented at the 7th meeting of the Cognitive Neuroscience Society, San Francisco.

Seger, C. A. (1999, November). Attribution processes in implicit learning. Poster presented at the 40th meeting of the Psychonomic Society, Los Angeles.

Peterson. D. A. & Seger, C. A. (1999, October) Selective attention to auditory stimuli: An application of the event related wavelet. Poster presented at the 29th meeting of the Society for Neuroscience, New Orleans.

Cincotta, C. M., Peterson. D. A. & Seger, C. A. (1999, October). ERP evidence of object location and identity inhibition in negative priming. Poster presented at the 29th meeting of the Society for Neuroscience, New Orleans.

Peterson. D. A. & Seger, C. A. (1999, April). Event related wavelet analysis in selective attention. Poster presented at the 6th meeting of the Cognitive Neuroscience Society, Washington, D. C.

Seger, C. A., Poldrack,. R. A., Prabhakaran, V., & Gabrieli, J. D. E. (1997, November). An fMRI study of visual concept learning. Poster presented at the 38th meeting of the Psychonomic Society, Philadelphia.

Seger, C. A., Desmond, J. E., & Gabrieli, J. D. E. (1997, October). fMRI studies of verb generation priming and unusual verb generation. Paper presented at the 27th meeting of the Society for Neuroscience, New Orleans.

Prabhakaran, V., Seger, C. A., Poldrack, R. A., Desmond, J. E., Glover, G. H., & Gabrieli, J. D. E. (1997, August). Neural correlates of categorization: An fMRI study of probabilistic classification using the weather prediction task. Poster presented at the 19th meeting of the Cognitive Science Society, Stanford, CA.

Seger, C. A., Prabhakaran, V., Poldrack, R. A., Desmond, J. E. & Gabrieli, J. D. E. (1997, August). Implicit and explicit knowledge in artificial grammar learning: An fMRI study. Poster presented at the 19th meeting of the Cognitive Science Society, Stanford, CA.

Stone, M. V., Seger, C. A., Prabhakaran, V., Gabrieli, J. D. E., & Glover, G. (1997, August). Studying privileged access with functional MRI. Poster presented at the 19th meeting of the Cognitive Science Society, Stanford, CA.

Desmond, J. E., Gabrieli, J. D. E., Sobel, N., Rabin, L. A., Wagner, A. D., Seger, C. A., & Glover, G. H. (1996, November)   An fMRI study of frontal cortex and cerebellum during semantic and working memory tasks. Poster presented at the 26th meeting of the Society for Neuroscience, Washington, D. C.

Seger, C. A., Rabin, L. A., Keane, M. M., Zarella, M., & Gabrieli, J. D. E. (1996, November). Repeated verb generation in amnesic patients: Normal priming and verb specificity.   Poster presented at the 26th meeting of the Society for Neuroscience, Washington, D. C.

Seger, C. A., Prabhakaran, V., Poldrack, R., & Gabrieli, J. D. E. (1996, October). Judgment processes in artificial grammar learning: An fMRI study. Poster presented at the 37th meeting of the Psychonomic Society, Chicago.

Seger, C. A., Rabin, L. A., & Gabrieli, J. D. E. (1996, July). The verb generation practice effect is due to verb-specific priming. Poster presented at the 8th meeting of the American Psychological Society, San Francisco.

Seger, C. A. (1996, July). Implicit learning of invariants. Poster presented at the 18th meeting of the Cognitive Science Society, San Diego.

Rabin, L. A., Seger, C. A., & Gabrieli, J. D. E. (1996, March)   Verb generation task performance in amnesic patients shows normal practice effect and verb specificity. Poster presented at the 3rd meeting of the Cognitive Neuroscience Society, San Francisco.

Seger, C. A. (1995, November). Independent implicit knowledge bases in artificial grammar learning. Poster presented at the 36th meeting of the Psychonomic Society, Los Angeles.

PROFESSIONAL ACTIVITIES AND AFFILIATIONS

Review Committees and Editorial Boards:

Grant Review Service for the Center for Scientific Review National Institutes of Health
Regular Member, Mechanisms of Sensory, Perceptual, and Cognitive Processes
    (formerly Cognitive Neuroscience) Study Section,
     Term of service: July 1, 2009 - June 30, 2015
Temporary (ad hoc) study sections:
    Cognition and Perception Study Section, Oct 2007
    Cognitive Neuroscience Study Section, Feb 2009

Cognition and Perception Study Section, Oct 2017
SEP Perception and Cognition Research to Inform Cancer Image Interpretation, Oct 2017
NEI K99 Review Panel, March 2018
SEP Perception and Cognition Research to Inform Cancer Image Interpretation, Dec 2018
SEP Perception and Cognition Research to Inform Cancer Image Interpretation, Nov 2019

Associate Editor, Frontiers in Human Neuroscience, 2015-
Scientific Advisory Committee, The International Basal Ganglia Society, 2007
Participant, Workshop on Psychophysiology of Huntington's Disease, CHDI Foundation, 2010

Ad hoc Grant Refereeing: Agence nationale de la recherche (France), Israel Science Foundation. National Science and Engineering Research Council of Canada, National Science Foundation (USA), Wellcome Trust of Great Britain, Air Force Office of Scientific Research, USA.

Ad hoc Manuscript Refereeing: Acta Psychologica; Addiction Biology; Behavioral and Brain Sciences; Behavioural Brain Research; Behavioral and Cognitive Neuroscience Reviews; Brain and Cognition; Brain Research; Cerebral Cortex; Cognition, Cognitive, Affective, and Behavioral Neuroscience; Cognitive Psychology; Cognitive Science; Cortex; Current Directions in Psychological Science, Experimental Brain Research; Frontiers in Neuroscience; Frontiers in Psychology; Human Brain Mapping; Journal of Cognitive Neuroscience; Journal of Experimental Psychology: Animal Learning and Cognition; Journal of Experimental Psychology: Learning, Memory, and Cognition; Learning and Memory; Journal of Neuroscience; Journal of Neurophysiology; Memory and Cognition; Nature Human Behaviour; Neurobiology of Aging; Neurobiology of Learning and Memory; Neuroimage; Neuropsychologia; Neuropsychology; Neuroscience; Perception and Psychophysics; Perspectives on Psychological Science; Proceedings of the National Academy of Sciences, USA; Progress in Neurobiology; Psychological Bulletin; Psychological Research; Psychological Review; Psychological Science; Psychology and Aging; Psychonomic Bulletin and Review; The Quarterly Journal of Experimental Psychology; Science Advances.
Total in 2023: 16 manuscript reviews

Other reviewing
        External reviews for promotion and/or tenure (2 in 2023)
        Textbooks (1 in 2023 for Brain Imaging Made Easy)

Memberships in Professional Societies:
   Association for Psychological Science (Fellow)
   Cognitive Neuroscience Society
   International Basal Ganglia Society
   Psychonomic Society (Fellow)
   Society for Neuroscience