

Curriculum Vitae
Derek M. Smith, Ph.D.
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Faculty Appointments

Johns Hopkins University – School of Medicine 2021-Present
Baltimore, Maryland
Research Associate

Education

Northwestern University 2019-2021
Evanston, Illinois
Postdoctoral Scholar

Georgia Institute of Technology 2016-2019
Atlanta, Georgia
Ph.D. Psychology (Cognition and Brain Science, minor in Quantitative Methods)

Georgia Institute of Technology 2013-2016
Atlanta, Georgia
M.S. Psychology

Temple University 2007-2011
Philadelphia, Pennsylvania
B.A. Psychology, minors in Cognitive Neuroscience & Economics

Publications

Peer Reviewed Publications

Dworetsky, A., Seitzman, B. A., Adeyemo, B., Nielsen, A. N., Hatoum, A. S., **Smith, D. M.**, Nichols, T. E., Neta, M., Petersen, S. E., & Gratton, C. (2024). Two common and distinct forms of variation in human functional brain networks. *Nature Neuroscience*, 1-12.

Smith, D. M., Kraus, B. T., Dworetsky, A., Gordon, E. M., & Gratton, C. (2023). Brain hubs defined in the group do not overlap with regions of high inter-individual variability. *NeuroImage*, 277, 120195.

Xu, N., **Smith, D. M.**, Jenó, G., Seeburger, D. T., Schumacher, E. H., & Keilholz, S. D. (2023). The interaction between random and systematic visual stimulation and infraslow quasi-periodic spatiotemporal patterns of whole-brain activity. *Imaging Neuroscience*, 1, 1-19.

Godwin, C. A., **Smith, D. M.**, & Schumacher, E. H. (2023). Beyond mind wandering: Performance variability and neural activity during off-task thought and other attention lapses. *Consciousness and Cognition*, 108, 103459.

Yu, Y., Gratton, C., & **Smith, D. M.** (2023). From correlation to communication: Disentangling hidden factors from functional connectivity changes. *Network Neuroscience*, 7(2), 411-430.

Smith, D. M., & Terhune, D. B. (2023). Pedunculopontine-induced cortical decoupling as the neurophysiological locus of dissociation. *Psychological Review*, 130(1), 183.

Ladwig, Z., Seitzman, B. A., Dworetzky, A., Yu, Y., Adeyemo, B., **Smith, D. M.**, Petersen, S. E., & Gratton, C. (2022). BOLD co-fluctuation 'events' are predicted from static functional connectivity. *NeuroImage*, 260, 119476.

Dykstra, T., **Smith, D. M.**, Schumacher, E. H., & Hazeltine, E. (2022). Measuring task structure with transitional response times: task representations are more than task sets. *Psychonomic Bulletin & Review*, 29(5), 1812-1820.

Smith, D. M., Perez, D. C., Porter, A., Dworetzky, A., & Gratton, C. (2021). Light through the fog: using precision fMRI data to disentangle the neural substrates of cognitive control. *Current Opinion in Behavioral Sciences*, 40, 19-26.

Gratton, C., **Smith, D. M.**, & Dorn, M. (2020). Digging deeper to chart the landscape of human brain development. *Neuron*, 106(2), 209-211.

Smith, D. M., Dykstra, T., Hazeltine, E., & Schumacher, E. H. (2020). Task representation affects the boundaries of behavioral slowing following an error. *Attention, Perception, & Psychophysics*, 1-12.

Hao, Y., Yao, L., **Smith, D.M.**, Sorel, E., Anderson, A.K., Schumacher, E.H., & Evans G.W. (2019). Prefrontal-posterior coupling mediates transitions between emotional states and influences executive functioning. *Scientific Reports*, 9(1), 8252.

Bezdek, M. A., Godwin, C. A., **Smith, D. M.**, Hazeltine, E., & Schumacher, E. H. (2019). Conscious and unconscious aspects of task representations affect dynamic behavior in complex situations. *Psychology of Consciousness: Theory, Research, and Practice*, 6(3), 225.

Smith, D. M., Zhao, Y., Keilholz, S. D., & Schumacher, E. H. (2018). Investigating the intersession reliability of dynamic brain-state properties. *Brain Connectivity*, 8(5), 255-267.

Schumacher, E. H., Cookson, S. L., **Smith, D. M.**, Nguyen, T. V., Sultan, Z., Reuben, K. E., & Hazeltine, E. (2018). Dual-task processing with identical stimulus and response sets: assessing the importance of task representation in dual-task interference. *Frontiers in Psychology*, 9, 1031.

Book Chapters

Smith, D. M., Acunzo, D. J., Deeley, P. Q., Mehta, M. A., & Terhune, D. B. (2024). The neurochemical bases of verbal suggestion and hypnosis. In *The Routledge International Handbook of Clinical Hypnosis* (pp. 269-287). Routledge.

Submitted Manuscripts

Smith, D. M., Hauenstein, C. E., Schumacher, E. H. (*Under Review*). The reliability of the perceptual load effect: A preliminary investigation.

Lee, H. J., **Smith, D. M.**, Hauenstein, C. E., Dworetzky, A., Kraus, B. T., Dorn, M., Nee, D. E., & Gratton, C. (2023). Precise individual measures of inhibitory control.

Gratton, C., Dworetzky, A., Adeyemo, B., Seitzman, B. A., **Smith, D. M.**, Petersen, S. E., & Neta, M. (2022). The cingulo-opercular network is composed of two distinct sub-systems. *bioRxiv*, 2022-09.

Manuscripts in Preparation

Hauenstein, C. E., Kessler, A., Montanez, A., Phillips, A., King, N. I., Davis, K. S., O'Grady, J., Pullara, O., Gordon B., & **Smith D. M.** (*In Preparation*) Lending a helping hand: A pilot study of constructive peer interactions in adults with autism.

Poster Presentations

Presented Conference Posters

Lee, Y., **Smith, D. M.**, & Schumacher, E. H. (2024, March). The congruency sequence effect: A behavioral meta-analysis and an fMRI study. Cognitive Neuroscience Society, Toronto Canada.

Montanez, A., Hauenstein C. E., Kessler A., Davis K., Gordon B., & **Smith D. M.** (2024 March). Exploring peer-to-peer engagement in adults with autism spectrum disorder. Association for Behavior Analysis International, Las Vegas, NV.

Xu, N., **Smith, D. M.**, Jenó, G., Seeburger, D. T., Schumacher, E. H., & Keilholz, S. D. (2023, July). The interaction between visual stimulation and intrinsic infraslow whole brain activity in humans. The Organization for Human Brain Mapping, Montreal Canada.

Montanez A., Kessler A., Davis K., Gordon B., & **Smith D. M.** Behavioral dynamics in a group class setting in adults with neurodevelopmental disorders (2023 March). Cognitive Neuroscience Society, San Francisco, CA.

Smith, D.M., Kraus, B.T., Dworetzky, A., Gordon, E.M., & Gratton, C. (2021, November). Bridges or mirages connector hubs and inter-subject variation in connectivity profiles. Society for Neuroscience, Virtual Meeting.

Xu N., **Smith, D.M.**, Jenó, G., Seeburger, D.T., Schumacher, E.H., & Keilholz, S.D. (2021, June). Quasi-periodic patterns and BOLD response entrained by visual stimulation in the human brain. Organization for Human Brain Mapping, Virtual Meeting.

Yu, Y., **Smith, D.M.**, & Gratton, C. (2021, June). From correlation to communication: decomposing functional connectivity changes. Organization for Human Brain Mapping, Virtual Meeting.

Smith, D.M., Kraus, B.T., Dworetzky, A., Gordon, E.M., & Gratton C. (2021, March). Inter-individual variation in connector hubs. Cognitive Neuroscience Society, Virtual Meeting.

Smith, D.M., Brown, T.I., & Schumacher, E.H. (2020 May). Network coupling & congruency status. Cognitive Neuroscience Society, Virtual Meeting.

Smith, D.M., Dykstra, T., Hazeltine, E., & Schumacher, E.H. (2018, November). Task files, post error slowing, & the flexible boundaries of cognitive control. Psychonomic Society, New Orleans, LA.

Hao, Y., Yao, L., **Smith, D.M.**, Sorel, E., Anderson, A.K., Schumacher, E.H., & Evans, G.W. (2018, November). Neural instantiation of regulatory processes for dynamic emotional stimuli. Society for Neuroscience, San Diego, CA.

Yousefi, B., **Smith D.M.**, Schumacher E., & Keilholz S. (2018, March). Quasi-periodic patterns of intrinsic brain activity: stability and individual-specificity. Cognitive Neuroscience Society, Boston, MA.

Smith, D.M., & Schumacher E.H. (2018, March). Activation and connectivity at the decision and execution phases of a voluntary task switching paradigm. Cognitive Neuroscience Society, Boston, MA.

Abbas, A., **Smith D.M.**, Schumacher E., & Keilholz S. (2017, June). Quasiperiodic patterns in the brain contribute to functional connectivity in the default mode Network. Organization for Human Brain Mapping, Vancouver, BC.

Smith, D.M., Zhao, Y., Yousefi, B., Keilholz, S.D., & Schumacher, E.H. (2017, March). The reliability of brain state properties. Cognitive Neuroscience Society, San Francisco, CA.

Smith, D.M., Zhao, Y., Godwin, C.A., Grooms, J.K., Yousefi, B., Keilholz, S.D., & Schumacher, E.H. (2016, April). Dynamic network connectivity and cognitive control. Cognitive Neuroscience Society, New York, NY.

Godwin, C.A., Grooms, J.K., **Smith, D.M.**, Keilholz, S.D., & Schumacher, E.H. (2015, March). Dynamics of memory encoding: Large-scale brain network fluctuations during prestimulus time windows. Cognitive Neuroscience Society, San Francisco, CA.

Smith, D.M., Godwin, C.A., Grooms, J.K., Keilholz, S.D., & Schumacher, E.H. (2015, March). Network dynamics of cognitive control. Cognitive Neuroscience Society, San Francisco, CA.

Upcoming (Accepted) Conference Posters

Hauenstein, C. E., & **Smith, D. M.** (2024, November). Meta-control adjustments in the context of a dynamic drift diffusion framework. Psychonomic Society, New York, NY.

Montanez, A., Hauenstein, C. E., Phillips, A., & **Smith, D. M.** (2024, November). Individual differences in sustained post error slowing. Psychonomic Society, New York, NY.

Phillips, A., Hauenstein, C. E., Montanez, A., & **Smith, D. M.** (2024, November). Cognitive control ability and reliability. Psychonomic Society, New York, NY.

Invited Talks

The neurochemistry of suggestion: Current knowledge and future directions. (December, 2022). Cultural and Social Neuroscience Research Group, King's College London (Virtual Presentation). Organizers: Quinton Deeley & Mitul Mehta

Pedunculopontine induced cortical decoupling account of dissociation (PICDAD). (June 2021). Attention, Perception and Experience (APEX) Lab, University of Chicago. Organizers: Howard C. Nusbaum

Reliability and Intra-Individual Variability of Congruency Effects. (May 2021). A Bunch of Control Datablitzes (ABCD), Organizers: Roshan Cools, Tobias Egner, David Badre, & Ross Otto

Editorial Service & Review

Editorial Service

Associate Editor, Frontiers in Cognition: Neural Networks and Cognition 2023-Present

Ad-hoc Reviews

Behavior Research Methods
Consciousness and Cognition
Frontiers in Psychology
Network Neuroscience
NeuroImage

Teaching Experience

Teaching Assistant (Grading): Sensation and Perception Fall 2015
Teaching Assistant (Grading): Cognitive Psychology Spring 2017
Teaching Practicum Spring 2017
Lab Instructor & Experiment Supervisor: Psychology Capstone Spring 2018
Guest Lecturer: Brain Bases of Self-Control Fall 2019
AFNI Task Analysis Tutorials: fMRI Analysis and Methods Spring 2021

Mentoring

Postdoctoral Researchers

Clifford E. Hauenstein 2022-Present

Awards

Neuroscience of Human Cognition T32 (T32NS047987) 2020-2021

Professional Memberships

Cognitive Neuroscience Society 2014-Present
Psychonomic Society 2015-Present
Society for Neuroscience 2019-Present
Association for the Scientific Study of Consciousness 2023-Present

Skills

AFNI, E-Basic (E-Prime), EQS, GIFT, Inquisit, IRTPRO, MATLAB, Microsoft Office, R, SPSS

Fields of Interest

Cognitive Control

Consciousness

Cingulo-Opercular Network

Individual Differences in Cognitive Abilities

Sleep-Wake Cycle & Individual Differences in Cognition

Predictive Coding

Dynamic Functional Connectivity

Metacognition