Peter S. Whitehead

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Employment

6/2021 – present — Postdoctoral Associate, Duke University
- Co-Investigator on CDC/APA grant on misinformation
- Apply for project grant funding with government agencies
- Manage research teams and projects on learning: category learning, self-regulated learning, and transfer
- Manage research teams and projects on debunking misinformation, political behavior, and belief formation

8/2016 – 5/2021 — Graduate Researcher, Duke University
- Managed several research teams and led multiple projects (EEG, eye tracking, behavior)
- Collaborated with teams (remote and in person) on experimental design, data collection (online and in person), and analysis
- Modeled data using hierarchical mixed models, signal processing techniques (ICA, time-frequency), and machine learning (regression, SVM, isolation forest) techniques
- Taught (TA) courses in statistics, research methods, and other topic areas
- Disseminated findings in written articles and presentations to diverse audiences
- Research in topic areas: attention, cognitive control, working memory

1/2020 – 3/2020 — Visiting Researcher, Vrije Universiteit Amsterdam
- Led projects collecting human neural (EEG) and eye tracking data
- Modeled data using multivariate classification analysis (backward decoding models) and non-parametric permutation testing

8/2013 – 7/2016 — Research Assistant, Arizona State University
- Modeled data using hierarchical modeling and network analysis procedures
- Led large scale, human behavioral individual differences projects
- Collaborated with diverse teams of researchers

Education

8/2016 – 5/2021 — **PhD Psychology (Cognition and Cognitive Neuroscience)**; Certificates in Cognitive Neuroscience and College Teaching, Duke University, Durham, North Carolina

8/2016 – 5/2019 — **MA Psychology**, Duke University, Durham, North Carolina

8/2012 – 5/2016 — **BS Psychology** and **BMus Orchestral Performance (Bassoon**), Arizona State University, Tempe, Arizona

Grants/Fellowships

2022 - 2023 — *When are pictures worth a thousand words? Debunking Misinformation with Images*
CDC Award#6NU87PS004366-03-02; Total Direct Costs ~$150,000
Role: Co-Investigator
PI: Elizabeth Marsh

2019	NSF Graduate Research Opportunities Worldwide Fellowship
2017 - 2021	NSF Graduate Research Fellowship Program
2017	National Defense Science and Engineering Fellowship (Declined in lieu of NSF GRFP)
2016 - 2021	BioCoRE Graduate Scholar
2016	James B. Duke Scholar/Fellowship

Publications

+ = co-first author

*** =** undergraduate student mentee

Whitehead, P. S., & Marsh, E. J. (2022). Reforming the seven sins of memory to emphasize interactions and adaptiveness. *Journal of Applied Research in Memory and Cognition*, *11*(4).

Whitehead, P.S.+, Zamary, A.+, Marsh, E.J. (2022). Transfer of category learning to impoverished contexts. *Psychonomic Bulletin and Review.*

Whitehead, P.S., Pfeuffer, C.U., Egner, T. (2022). Assessing the Durability of One-Shot Stimulus-Control Bindings. *Journal of Cognition.*

Stanley, M.L.+, **Whitehead, P.S.**+, Marsh, E. (2022). The Cognitive Processes Underlying False Beliefs. *Journal of Consumer Psychology.*

Stanley, M.L.+, **Whitehead, P.S.**+, Seli, P., Marsh, E. (2021). Mind wandering at encoding, but not at retrieval, disrupts one-shot stimulus-control learning. *Psychonomic Bulletin and Review.*

Whitehead, P.S., *Mahmoud, Y., Seli, P., Egner, T. (2021). Mind wandering at encoding, but not at retrieval, disrupts one-shot stimulus-control learning. *Attention, Perception, & Psychophysics.*

Whitehead, P.S., Pfeuffer, C.U., Egner, T. (2020). Memories of Control: One-shot episodic learning of item-specific stimulus-control associations. *Cognition.*

Whitehead, P.S., Brewer, G.A., Blais, C. (2020). Reliability and Convergence of Conflict Effects: An examination of evidence for domain-general attentional control. *Experimental Psychology.*

von Bastian, C. C., Blais, C., Brewer, G., Gyurkovics, M., Hedge, C., Kałamała, P., ... **Whitehead, P.S.,** & Wiemers, E. (2020). Advancing the understanding of individual differences in attentional control: Theoretical, methodological, and analytical considerations. *PsyArXiv preprint.*

Stanley, M.L., **Whitehead, P.S.**, Sinnott-Armstrong, W., Seli, P. (2020). Exposure to Opposing Reasons Reduces Derogation of Ideological Opponents. *Journal of Experimental Social Psychology.*

Whitehead, P.S., *Ooi, M., Egner, T., Woldorff, M.G. (2019). Neural Mechanisms of Cognitive Control over Working Memory Capture of Attention. *Journal of Cognitive Neuroscience.*

Sridhar, H. S., Kimble, A., King, M. M., Johnson, C. P., Shah, R. J., Dietzel, J. M., ... **Whitehead, P.S.,** & Samanez-Larkin, G. (2019). Lower sleep variability associated with higher academic performance across the semester in college students. *PsyArXiv preprint.*

Fitzhugh, M., **Whitehead, P.S.**, Johnson, L., Cai, J., Baxter, L., & Rogalsky, C. (2019). A functional MRI investigation of cross-modal interference in an audiovisual Stroop task. *PLOS One.*

Whitehead, P.S. & Egner, Tobias. (2018). Frequency of Prospective Use Modulates Task-set Interference*. Journal of Experimental Psychology: Human, Perception, and Performance.*

Whitehead, P.S., Blais, C., Brewer, G. (2018). Is Cognitive Control Reliable?. *Journal of Experimental Psychology: Learning, Memory, and Cognition*

Whitehead, P.S. & Egner, Tobias. (2018). Cognitive Control over Prospective Task-set Interference*. Journal of Experimental Psychology: Human, Perception, and Performance.*

Whitehead, P.S., Brewer, G., Blais, C. (2017). ERP Evidence for Conflict in Contingency Learning*. Psychophysiology.*

Whitehead, P.S., Brewer, G., Patwary, N., Blais, C. (2016). Contingency learning is reduced for high conflict stimuli. *Acta Psychologica*.

Teaching

2019, 2018 — Instructor, *EEG Lab – Neuroscience Bootcamp*
Led lecture and lab sections on EEG analysis techniques for first-year graduate students in Neurobiology and the Cognitive Neuroscience Admitting Program

2019 — Teaching Assistant (on record), *PSY 202 Research Methods in Psychological Science*, Spring 2019
Led two lab sections, focused on discussing and implementing best research practices in the development, collection, and analysis of independent student projects
Professor: Angela Vieth

2018 — Teaching Assistant (on record), *PSY 257 Introduction to Cognitive Neuroscience*, Fall 2018
Led three discussion sections, focusing on small group presentation and discussion of foundational cognitive neuroscience papers and texts
Professor: Tobias Egner

2018 — Teaching Assistant (on record), *PSY 201 Statistical Methods in Psychological Science*, Spring 2018
Led two lab sections, primarily focused on implementing introductory statistical concepts (t-tests, ANOVAs, regression, etc) from lecture in a practical setting with real data (using JASP)
Professor: Gregory Samanez-Larkin

2017 — Co-Instructor (workshop). *JavaScript/Amazon Mechanical Turk Workshop*, August 18-19, 2017.
Taught basic programming skills in javascript for running cognitive experiments via the internet primarily using Amazon's Mechanical Turk platform to Cognitive Neuroscience Admitting Program and Psychology & Neuroscience graduate students
Co-Instructor: Christina H. Bejjani

Mentoring

Graduate Students:

2022 - present — Joyce Park, Marsh Lab, Duke University
Project: Nudging Retrieval Practice during Self-Regulated Learning

2020 - 2022 — Joshua Stivers, Marsh Lab, Duke University
Project: Context Transfer in Naturalistic Category Learning

2020 - 2021 — Shenyang Huang, Marsh Lab, Duke University
Rotation Project: Network Representations of Category Learning

2020 - 2021 — Matthew Slayton, Seli Lab, Duke University
EEG Advisor: Lafitte Foundation Grant, Paired Creative Idea Generation and Inter-brain Synchrony

Undergraduate Students:

2021 - 2021 — Vin Somasundaram, Class of 2022, Duke University
Independent Study, Fall 2021

2019 - 2020 — Younis Mahmoud, Class of 2021, Duke University
Independent Study, Fall 2020
Independent Study, Spring 2020
Work-Study, Fall 2019
Work-Study, Spring 2019

2018 - 2019 — Julia Beck, Class of 2019, Duke University
Honors Thesis Student, Spring 2019
Independent Study, Fall 2018
Summer Neuroscience Program/Fellowship, Summer 2018
Independent Study, Spring 2018

2018 - 2018 — Lily Goldsmith, Class of 2021, Duke University
Research Practicum, Fall 2018

2017 - 2018 — Mathilde M. Ooi, Class of 2018, Duke University
Honors Thesis Student, Spring 2018
Independent Study, Fall 2017
Independent Study, Summer 2017

Programs:

2017, 2018 — Graduate Mentor and Organizer, Duke BioCoRE/Office of Bio-Graduate Diversity *Summer Research Opportunities Program.* Duke University, Durham, NC.

Conference Presentations/Abstracts

*** =** undergraduate student mentee

Whitehead, P.S., *Mahmoud, Y., Seli, P., Egner, T. (2020). Mind wandering at encoding, but not at retrieval, disrupts one-shot stimulus-control learning. Psychonomic Society Conference. Poster.

*Beck, J.C., **Whitehead, P.S.**, & Woldorff, M.G. (2019). *Interference on neural mechanisms of working*

memory maintenance. Cognitive Neuroscience Society Conference, San Francisco CA. March 23-26. Poster.

*Beck, J.C., **Whitehead, P.S.**, & Woldorff, M.G. (2018). *Interference on neural mechanisms of working memory maintenance.* Annual BioCoRE Symposium. July 26-27. Poster.

Whitehead, P.S., *Ooi, M.M, Egner, T. & Woldorff, M.G. (2018). *Neural Mechanisms Underlying Cognitive Control over Attentional Capture by Working Memory.* Cognitive Neuroscience Society Conference, Boston MA. March 23-27. Poster.

*Ooi, M.M, **Whitehead, P.S.**, Egner, T. & Woldorff, M.G. (2018). *Neural Mechanisms Underlying Cognitive Control over Attentional Capture by Working Memory.* North Carolina Cognition Conference, Chapel Hill, NC. February 17. Poster.

Whitehead, P.S., & Egner, T. (2017). *Cognitive Control Over Prospective Task-set Interference*. Psychonomic Society Conference, Vancouver BC. November 9-12. Poster.

Whitehead, P.S., Brewer, G., Blais, C. (2017). *ERP Evidence for Conflict in Contingency Learning.* Cognitive Neuroscience Society Conference, San Francisco, CA. March 25-28. Poster.

Blais, C., **Whitehead, P.S.**, Brewer, G.A. (2016). *Is Cognitive Control Unreliable? When Means are not Enough.* Arizona State University's Barrow Neurological Institute 6thAnnual Research Symposium in Phoenix, AZ. January 7, 2016. Poster.

Blais, C., **Whitehead, P.S.**, Brewer, G.A. (2015). *Is Cognitive Control Unreliable? When Means are not Enough.* Psychonomic Society conference, Chicago, IL. November 19-22, 2015. Poster.

Fitzhugh, M.C., **Whitehead, P.S.,** Johnson, L., Diaz, A.F., Baxter, L.C., Rogalsky, C. (2015). *An Investigation of Executive Function Resources in Audiovisual Speech Comprehension: an fMRI Study.* Society for the Neurobiology of Language conference, Chicago, IL. October 15-17, 2015. Poster.

Diaz, A.F., Yuji, Y., **Whitehead, P.S.,** Kothe, L., Rogalsky, C. (2015). *The relationship between cognitive control and speech: a dual-task behavioral study.* Society for the Neurobiology of Language conference, Chicago, IL. October 15-17, 2015. Poster.

Ad Hoc Reviewer

Cognition; Scientific Reports; Cognitive, Affective, and Behavioral Neuroscience; Journal of Experimental Psychology: General; Journal of Experimental Psychology: Learning, Memory, and Cognition; Journal of Experimental Psychology: Human Perception and Performance

Talks

One Shot Learning of Cognitive Control Associations. (2020). Group Meeting, Kool Lab, Washington University of St. Louis, St. Louis (virtual).

Cognitive Control and Task Sets. (2020). Colloquium, Psychology Department, Vrije Universiteit,

Amsterdam.

Does Working Memory Influence Perceptual Decision Making?. (2018). Center for Cognitive Neuroscience Annual Retreat, Durham, NC. April 19. Data Blitz (2nd place prize winner).

University Service

2022	Post-Doctoral Representative (elected), Center for Cognitive Neuroscience, Duke University, Durham, NC.
2019	Co-Organizer, Center for Cognitive Neuroscience Retreat, Center for Cognitive Neuroscience. Duke University, Durham, NC.
2017 - 2018	Co-Organizer, Center for Cognitive Neuroscience Journal Club, Center for Cognitive Neuroscience. Duke University, Durham, NC.
2017 - 2019	Volunteer, Graduate Student Recruitment Weekend, Center for Cognitive Neuroscience. Duke University, Durham, NC.
2016	Graduate Student Panelist, Duke University Department of Psychology *Grad School Info Session.* October 5, 2016. Duke University, Durham, NC.

Outreach

2019	Presenter, Duke Summer Neuroscience Program, *EEG Demo*. July 6, 2019. Duke University, Durham, NC.
2019	Volunteer Judge, North Carolina Science and Engineering Fair, 3A *Middle and High School Biological Science.* February 9, 2019. Hillside High School, Durham, NC.
2018	Presenter, Duke Summer Neuroscience Program, *EEG Demo*. July 11, 2018. Duke University, Durham, NC.
2018	Organizer and Volunteer, Duke Institute of Brain Sciences, *Discovery Day*. April 15, 2018. Duke University, Durham, NC.
2018	Volunteer Judge, North Carolina Science and Engineering Fair, 3A *Middle and High School Biological Science.* February 10, 2018. Hillside High School, Durham, NC.
2017	Graduate Mentor, US2020 Research Triangle Park Expo *Speed Mentoring.* November 3, 2017. Research Triangle Park, Durham, NC.
2017	Organizer and Volunteer, Duke Institute of Brain Sciences, *Discovery Day*. April 9, 2017. Duke University, Durham, NC.
2016	Volunteer Judge, North Carolina Science and Engineering Fair, 3A *Middle School Biological Science.* February 11, 2017. Hillside High School, Durham, NC.
2016	Graduate Mentor, US2020 Research Triangle Park Expo *Speed Mentoring.* October 21, 2016. Research Triangle Park, Durham, NC.

2015 Presenter, Arizona High School Conference *What Is EEG Research All About.* March 23, 2015. Arizona State University, Tempe, Arizona.

2015 Presenter, Night of the Open Door: *Using Virtual Reality for Cognitive Science and Memory Research.* February 28, 2015. Arizona State University, Tempe, Arizona.

Professional Development

2018 Machine Learning Summer School
Fuqua School of Business, Duke University

2017 Course in Transcranial Magnetic Stimulation
School of Medicine, Duke University

2017 Attendee, University of Michigan fMRI Bootcamp
August 6-18, Ann Arbor, MI

2016 Attendee, North Carolina BioSciences Symposium
July 28-29, Durham, NC

2016 Attendee, ASU Oscillatory Dynamics Workshop
May 2-6, Phoenix, AZ
Presented by Dr. Mike X Cohen

Skills

Tools: R, Python (incl. Tensorflow/Scikit-learn), SQL, Javascript, Matlab, Tablaeu

Methods: Hierarchical Mixed Models, Bayesian Analysis, Machine Learning (SVM, random forest, isolation forest, linear/logistic regression), inferential statistics (parametric and nonparametric), ANOVA, experimental design (behavior, survey, neuroimaging)