**Brooke Eliese Yeager, M.S.**

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**EDUCATION**

**University of Iowa, Iowa City, IA Anticipated Graduation Date: December 2025**

* *Doctor of Philosophy, Neuroscience*
* *GPA:* 4.05
* *Thesis:*Network dynamics underlying cognitive impairment in Parkinson’s disease

**Drexel University, Philadelphia, PA Graduation Date: June 2020**

* *Master of Science, Psychology*
* *Thesis:* Applications of personalization transcranial magnetic stimulation for modulation of attention

**Lock Haven University of Pennsylvania, Lock Haven, PA Graduation Date: May 2018**

* *Bachelor of Science, Psychology*
* *Magna Cum Laude*

**RESEARCH EXPERIENCE**

**Graduate Research Assistant,** **Narayanan Lab**  **Feb 2021 – Present**

*Graduate College, University of Iowa, Iowa City, IA*

*Department of Neurology*

Supervisor: *Nandakumar Narayanan, MD, PhD*

Projects:

* *Modulation of theta dynamics and cognitive control in Parkinson’s disease*
* *Neurophysiological correlates of cognitive control dysfunction in Parkinson’s disease*
* *Sex differences in network dynamics and cognitive impairment in Parkinson’s disease*
* *Cortical and subcortical functional connectivity and cognitive impairment in Parkinson’s disease*

**Graduate Research Assistant,** **Hwang Lab for Neurocognitive Dynamics** **Nov 2020 – Feb 2021**

*Graduate College, University of Iowa, Iowa City, IA*

*Department of Psychological and Brain Sciences*

Supervisor: *Kai Hwang, PhD*

Projects:

* *Functional connectivity between precuneus and central executive network*

**Graduate Research Assistant,**

**Iowa Neuroimaging & Noninvasive Brain Stimulation Laboratory Aug 2020 – Nov 2020**

*Graduate College, University of Iowa, Iowa City, IA*

*Department of Psychiatry/ Department of Neurology*

Supervisor: *Aaron Boes, MD, PhD*

Projects:

* *Cognitive profiles of patients with lesions to the precuneus*

**Graduate Research Assistant,** **Cognitive Neuroengineering and Well-Being Lab June 2018 – June 2020**

*College of Arts and Sciences, Drexel University, Philadelphia, PA*

Supervisor: *John Medaglia, PhD*

Project:

* *Applications of personalized transcranial magnetic stimulation for modulation of attention*

**Graduate Research Assistant,** **Chrysikou Cognitive Neuroscience Lab** **Sept 2018 – June 2020**

*College of Arts and Sciences, Drexel University, Philadelphia, PA*

Supervisor: *Lila Chrysikou, PhD*

Project:

* *High-definition transcranial direct current stimulation (tDCS) for cognitive flexibility*

**PUBLICATIONS**

† Authors contributed equally

**Yeager, B. E.**†, Twedt, H. P.†, Simmering, J. E., Schultz, J., & Narayanan, N. S. (2025). Cortical connectivity predicts cognition across time in Parkinson’s disease. *medRxiv,* 2025-05.

Spicer, M. M., **Yeager, B. E.**, Kim, Y. C., & Narayanan, N. S. (2024). Working memory circuits and rhythms in cognition in Parkinson’s disease. *Learning and Memory: A Comprehensive Reference,* 3rd Edition. Wixted, J. T. (ed).

**Yeager, B. E.**, Twedt, H. P., Bruss, J., Schultz, J., & Narayanan, N. S. (2024). Cortical and subcortical functional connectivity and cognitive impairments in Parkinson’s disease. *Neuroimage: Clinical*, 103610.

**Yeager, B. E.**, Bruss, J., Herbet, G., Hwang, K., Tranel, D. Boes, A. (2022). Central precuneus lesions lead to executive function deficits. *Brain Structure and Function, 227*(9), 3099-3108*.*

Cole, R. C., Okine, D. N., **Yeager, B. E.**, Narayanan, N. S. (2021). Neuromodulation of cognitive symptoms of

Parkinson’s disease. *Cognition in Parkinson’s Disease*. Albin, R., Narayanan, N. S. (eds).

**Yeager, B. E.**, Dougher, C. C., Cook, R. H., & Medaglia, J. D. (2021). The role of transcranial magnetic stimulation in understanding attention-related networks in single subjects. *Current Research in Neurobiology, 2,* 100017.

**PUBLICATIONS *IN PROGRESS***

**Yeager, B. E.**, Twedt, H. P., Singh, A., Espinoza, A., Cole, R., Schultz, J., & Narayanan, N. S. (*In preparation*). Sex differences in the neural dynamics underlying cognitive impairment in Parkinson’s disease.

**POSTERS AND ORAL PRESENTATIONS**

\*Denotes medical student mentee

**B. E. Yeager**. (2025, March). *Sex differences in neural dynamics and cognition in Parkinson’s disease.* Oral presentation given at the Jakobsen Research Showcase; Iowa City, IA.

**B. E. Yeager**, H. P. Twedt, A. Singh, A. Espinoza, R. Cole, J. Bruss, J. Schultz, N. S. Narayanan. (2024, October). *Sex differences in neural dynamics of cognitive impairment in Parkinson’s disease.* Poster to be presented at the Society for Neuroscience; Chicago, IL.

H. P. Twedt\*, **B. E. Yeager**, J. Schultz, J. Bruss, N. S. Narayanan. (2024, October). *Longitudinal alterations in functional connectivity and cognition in Parkinson’s disease.* Poster to be presented at the Society for Neuroscience; Chicago, IL.

**B. Yeager**, A. Singh, A Espinoza, R. Cole, & N. Narayanan. (2023, November). *Altered mid-frontal theta dynamics indicate failure to engage cognitive control for working memory in Parkinson’s disease.* Poster presented at the Society for Neuroscience; Washington, D.C.

R. Cole, J.F. Cavanagh, A. Singh, A. Espinoza, **B. Yeager**, J. Greenlee, & N. Narayanan. (2023, April). *The influence of cognitive status on low-frequency stimulation of the subthalamic nucleus during cognitive control.* Poster presented at the Minnesota Neuromodulation Symposium; Minneapolis, MN.

R. Cole, A. Espinoza, **B. Yeager**, & N. Narayanan. (2023, March). *Midfrontal low-frequency oscillations reflect interference costs in young adults but not middle-aged or older adults.* Poster presented at Dallas Aging and Cognition Conference; Dallas, TX.

H. P. Twedt\*, **B. Yeager**, J. Schultz, & N. Narayanan. (2022, November). *Basal ganglia network alterations in Parkinson's disease.* Poster presented at Society for Neuroscience; San Diego, CA.

R. Cole, A. Espinoza, **B. Yeager**, & N. Narayanan. (2022, November). *Cognitive interference across the lifespan.* Poster presented at The Gerontological Society of America; Indianapolis, IN.

R. Cole, J. Cavanagh, Singh, J. Wessel, A. Espinoza, **B. Yeager**, J. Greenlee, & N. Narayanan. (2022, November). *Low-frequency deep brain stimulation of the subthalamic nucleus maintains cognitive control.* Poster presented at Society for Psychophysiological Research; Vancouver, BC, Canada.

**B. Yeager**, A. Espinoza, R. Cole, A. Singh, & N. Narayanan. (2022, September). *EEG-based cortical connectivity in Parkinson’s disease.* Poster presented at Society for Psychophysiological Research; Vancouver, BC, Canada.

**B. Yeager**, J. Bruss, G. Herbet, D. Tranel, & A. Boes. (2022, August). *Central precuneus lesions linked to impaired executive function as measured by the Trail-Making Test.* Poster presented at American Psychological Association; Minneapolis, MN.

**B. Yeager**, A. Espinoza, R. Cole, & N. Narayanan. (2022, June). *Cognition in Parkinson’s disease: Potential mechanisms and future directions*. Poster presented at Graduate Women in Science National Convention; Madison, WI.

R. Cole, J. Cavanagh, J. Wessel, A. Espinoza, **B. Yeager**, & N. Narayanan. (2022, June). *Low-frequency deep brain stimulation of the subthalamic nucleus maintains cognitive control*. Poster presented at Graduate Women in Science National Convention; Madison, WI.

**B. Yeager**, & N. Narayanan. (2022, April). *Functional network alterations in Parkinson's disease*. Poster presented at the Cognitive Neuroscience Society; San Francisco, CA.

**B. Yeager**, G. Herbet, D. Tranel, & A. Boes. (2021, October). *Central precuneus lesions are associated with impaired executive function.* Poster presented at the American Neurological Association (virtual).

B. L. Deck, J. Zimmerman, B. Erickson, **B. Yeager**, A. Kelkar, J. D. Medaglia. (2020, March). *Focal neurostimulation of attention networks.* Poster presented at Cognitive Neuroscience Society (virtual).

B. L. Deck, **B. Yeager**, J. Zimmerman, A. Kelkar, B. Erickson, & J. D. Medaglia. (2019, October). *Personalized neuromodulation for attention networks*. Poster presented at Society for Neuroscience; Chicago, IL. (Cancelled due to COVID-19).

**B. Yeager**, B. Deck, J. Zimmerman, A. Kelkar, B. Erickson, & J. D. Medaglia. (2019, June). *Personalized neuromodulation modulates executive control of attention.* Poster presented at Carolina Neurostimulation Conference; Chapel Hill, NC.

**RESEARCH GRANTS, HONORS, AND AWARDS**

\* Denotes medical school mentee

**First-place Oral Presentation**, March 2025, University of Iowa, Iowa City, IA

* $750 *-- Sex differences in neural dynamics and cognition in Parkinson’s disease*

**Society for Neuroscience (SfN) Trainee Professional Development Award**, August 2024, Chicago, IL

* $1,000 & complimentary SfN registration *– Sex differences in neural dynamics of cognitive impairment in Parkinson’s disease*

**Kwak-Ferguson Fellowship**, July 2023, University of Iowa, Iowa City, IA

* $10,000 – Awarded to an upper-level graduate student working in the area of neurodegenerative diseases to support continued research efforts

**Graduate College Summer Fellowship**, March 2023, University of Iowa, Iowa City, IA

* $5,000 – Awarded to post-comprehensive exam graduate students to facilitate completion of a doctoral degree in a timely manner

**Best Neuroscience Poster Award\***, Sept. 2022, Iowa City, IA

* Hunter Twedt; *Basal ganglia network alterations in Parkinson's disease* presented at Medical Student Research Day 2022 put on the Carver College of Medicine

**APA Society for Clinical Neuropsychology, Blue Ribbon Poster Award** **– Translational Category**, Aug. 2022, Minneapolis, MN

* $500 – *Central precuneus lesions linked to impaired executive function as measured by the Trail-Making Test*

**Graduate Women in Science Travel Award**, June 2022, Madison, WI

* $250 – *Cognition in Parkinson’s disease: Potential mechanisms and future directions*.

**NIH Predoctoral Training Grant, T32-NS007421**, Aug. 2021, University of Iowa, Iowa City, IA

* $25,863 – Awarded for the 2021-2022 academic year to 2nd year graduate students who meet the outstanding qualifications to be reappointed to the grant

**NIH Predoctoral Training Grant, T32-NS007421**, Aug. 2020, University of Iowa, Iowa City, IA

* $25,320 – Awarded for the 2020-2021 academic year to select incoming graduate students who meet the outstanding qualifications

**Carolina Neurostimulation Conference Travel Award**, June 2019, North Carolina, NC

* $500 – *Personalized neuromodulation modulates executive control of attention.*

**Dean’s Fellowship**, Sept. 2019, Drexel University, Philadelphia, PA

* $3,600 – Awarded to assist graduate students who maintained an excellent academic performance in the 2019-2020 school year

**Dean’s Fellowship**, Sept. 2018, Drexel University, Philadelphia, PA

* $3,600 – Awarded to assist outstanding applicants for the 2018-2019 application cycle

**Magna Cum Laude**, May 2018, Lock Haven University

* Graduated with a GPA over 3.6 on a 4.0 scale

**Excellence in the Field of Psychology Award**, April 2018, Psychology Department, Lock Haven University, Lock Haven, PA

* Awarded to the top 3 outstanding psychology senior undergraduate students for excellence in academics and research

**Dean’s Honors List**, Lock Haven University, Lock Haven, PA

* Semester GPA above 3.5
* 2015 Spring, 2016 Spring, 2016 Fall, 2017 Spring, 2017 Fall, Spring 2018

**MENTORING EXPERIENCE**

**iDream Near-Peer Mentor,** Iowa Neuroscience Institute **2023 – 2025**

* Mentored one post-baccalaureate member of the Iowa: Diversifying Research Experiences and Mentorship post-baccalaureate program

**Research Mentor,** Narayanan Lab **2022 – Present**

* Mentored one medical student (M2) 2025 – Present
* Mentored one medical scientist training program (MSTP) student 2024 – Present
* Mentored one medical student (M2-M4) 2022 – 2025

**Graduate Student Peer Mentor,** Interdisciplinary Graduate Program in Neuroscience (IGPN) **2022 – 2023**

* Mentored one first-year graduate student in the neuroscience program

**TEACHING EXPERIENCE**

**Lab Assistant,** University of Iowa, Iowa City, IA **2023**

* ***Medical school courses:*** Mechanisms of Health & Disease 2
* ***Graduate courses:*** Functional Neuroanatomy

**Brain Bee Tutor,** University of Iowa, Iowa City, IA **2022**

* *Tutored the Iowa Brain Bee winner for the National Brain Bee*

**Teaching Assistant,** Drexel University, Philadelphia, PA  **2018 – 2020**

***Undergraduate courses:*** *General Psychology, Computer Assisted Data Analysis 1 & 2*

**PROFESSIONAL DEVELOPMENT & ACADEMIC SERVICE**

**Peer Reviewer 2022 – Present**

*2025: Brain Disorders*

*2024: Neuroimage: Clinical*

*2022: Current Research in Neurobiology*

**Travel Funds Director,** Graduate Student Senate, University of Iowa **2024 – 2025**

**Senator Representative for Interdisciplinary Graduate Program in Neuroscience (IGPN),**

Graduate Student Senate, University of Iowa **2023 – 2025**

**Admissions Committee Student Member**, IGPN, University of Iowa **2023 – 2025**

**Poster Judge,**

Spring Undergraduate Research Festival (SURF), Iowa Center for Research, University of Iowa **2023 – 2025**

**Travel Funds Committee Chair,** Graduate Student Senate, University of Iowa **2023 – 2024**

**Pre-program Research Poster Presenter,** Mini Medical School Series, University of Iowa **2023**

**Peer Tutor,** Iowa Brain Bee, University of Iowa **2022**

**President,** Graduate Women in Science, University of Iowa chapter **2022 – 2023**

**Volunteer,** Kids Go STEM, Outreach Committee, IGPN, University of Iowa **2021, 2023**

**Vice President,** Graduate Women in Science, University of Iowa chapter **2021 – 2022**

**Volunteer,** Open Heartland Summer Camp, Outreach Committee, IGPN, University of Iowa **2021**

**Write Winning Grant Proposals Seminar,** Grant Writers’ Seminars & Workshops, University of Iowa **2020**

**Master’s Program Graduate Assistant,** Drexel University, Psychology Master’s Program **2019 – 2020**

**Employee Resource Leadership Initiative (ERLI) Fellow,** Drexel Student Recreation Center  **2019 – 2020**

**Cohort Representative,** Drexel University, Psychology Master’s Cohort Class of 2020  **2018 – 2020**

**Chapter President*,*** Zeta Tau Alpha, Lock Haven University  **2016 – 2017**

**Vice President 1,** Coordinator of Committees, Zeta Tau Alpha, Lock Haven University **2015 – 2016**

**PROFESSIONAL MEMBERSHIPS**

Society for Neuroscience **2019 – Present**

Psi Chi, International Honor Society in Psychology  **2018 – Present**

Organization for Human Brain Mapping **2023 – 2024**

Association for Women in Science **2022 – 2024**

Society for Psychophysiological Research **2022 – 2023**

Graduate Women in Science (GWIS) **2020 – 2023**

Cognitive Neuroscience Society  **2019 – 2023**

American Neurological Association **2021 – 2022** American Psychological Association **2019 – 2022**

Association for Psychological Science **2020 – 2022**