Christian Sodano

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EDUCATION

University of North Carolina — Chapel Hill, NC
Transfer, Class of 2025, Neuroscience, B.S. | 4.00 — May 2022-Present
Psi Chi Psychology Honor Society, Tau Sigma Honor Society

North Carolina State University — Raleigh, NC
Part-Time, Coursework in Philosophy of Science | 4.00 — Jan 2022-May 2022

University of Chicago — Chicago, IL
Class of 2023, Coursework in Physics & History of Science | 3.86 — Sep 2019-Mar 2021
Dean's List, All-Conference Pole Vaulter

RESEARCH EXPERIENCE

University of North Carolina Neuroscience: Frohlich Lab — Chapel Hill, NC
Research Assistant / Study Coordinator, Department of Psychiatry — Aug 2022-Present

- Performed a MATLAB analysis of working memory task behavioral data to establish the effects of a visual hemifield attentional bias strategy on task performance
- Wrote a successful IRB proposal for a double blinded, placebo-controlled trial of the effects of transcranial alternating current stimulation (tACS) on memory in healthy aging
- Coordinated nine participants through a five-session NIH-funded clinical trial using dual-coil, fMRI-guided transcranial magnetic stimulation (TMS)
- Recorded over 30 hours of experience administering TMS, including resting and active motor thresholding and the use of neuronavigation software
- Trained in participant recruitment, administering informed consent, EEG cap and tACS electrode application, and running psychtoolbox cognitive task sessions in an MRI

University of North Carolina: Research Methods in Psychology — Chapel Hill, NC
Undergraduate Course-Based Research Experience — Aug 2022-Dec 2022

- Reviewed literature on the relationship between college students' negative self-perception, as measured by self-evaluations of academic and social status, and their social media use
- Collaborated with peers to develop a study design for online survey research using Qualtrics
- Analyzed data from over 300 respondents using multiple regression in Jamovi

- Submitted a 16-page APA style final project paper replicating Idubor and colleagues' 2016 study of Nigerian undergraduates among a sample of UNC students

University of Chicago Medical Physics: Muon Tomography Chicago, IL
Research Assistant, Department of Radiology Feb 2020-Jul 2020

- Learned the mathematical basis for computed tomography (CT) imaging and applied it to particle tracing efforts to scan the interior of the Great Pyramid at Giza for undiscovered vaults
- Developed a closed-form equation to convert muon particle detector measurements into the intersection length of a square pyramid. My contributions were acknowledged in a published technical report
- Presented my work biweekly with senior Fermilab project managers

Duke University Materials Science Lab Durham, NC
Brief Laboratory Experience Internship Jun 2018

- Shadowed Dr. Nico Hotz's work identifying novel materials for sustainable energy conversion
- Learned how to review literature relevant to methane reforming, to reconstruct peer scientists' methods, and to operate and interpret the results of a gas chromatograph

GRANTS & FUNDING

- Awarded a Summer Undergraduate Research Fellowship to fund my research on the effect of tACS on sleep and memory in older adults Mar 2023
- Awarded the Lindquist Undergraduate Research Award Feb 2023

WRITTEN WORK

- "Rage Against the Dying of the Light: Chronotherapeutics for Bipolar Disorder" literature review Dec 2022
- "College Students' Social Media Use, Abuse, and Self-Perception: A Replication Study" class paper Dec 2022

RESEARCH PRESENTATIONS

- "When psychology experiments are hard, some participants cheat to succeed by rationing their cognitive resources" class poster Mar 2023
- "Calculating Attentional Bias from Working Memory Behavioral Data Feb 2023

using MATLAB"

- "Thinking Deeply about Research Design in Psychology" Feb 2023
- "Closed-Loop Neurofeedback in Patients with Autism: Science, Applications, and Careers" Feb 2023
- "Why Use Brain Stimulation to Improve Memory in the Aging Brain?" Jan 2023
- "Independent Study in Neuroscience Project Proposal: Visual Hemifield Bias Correction" Oct 2022

SERVICE & OUTREACH

- Provided pro-bono consultation to aid a Raleigh-based startup pitch to investors an alcohol abuse harm-reduction device aimed at college students Apr 2023
- Presented a destigmatizing educational presentation on mental illness for UNC's Kenan Residential Community as part of the TEACH Initiative Mar 2023
- Presented "An Introduction to Undergraduate Research in the Frohlich Lab" during undergraduate research involvement week Oct 2022

TEACHING EXPERIENCE

- Prepared a lesson plan for Dr. Robert Coven entitled "Teaching the Intellectual Roots of Eugenics in North Carolina through Primary Sources from the Library of Congress" Jan 2023-Mar 2023
- High School Technique Coach, All-American Wrestling Club May 2021-Feb 2023
- Volunteer Assistant Varsity Wrestling Technique Coach, Holly Springs High School & Cary Academy May 2021-Feb 2022

Invited Lectures

- "Maps of Human Understanding: How the Way Knowledge is Categorized Influences your Source Selection" at Cary Academy Dec 2022

SKILLS

- MATLAB, Python, Java, hypothesis testing with SPSS and Jamovi, data visualization with ggplot in R, HTML & CSS, grant writing and document formatting in LaTeX

CURRENT RESEARCH INTERESTS

Chronobiology and the etiology of bipolar disorder, functional neuroimaging (EEG, fMRI, fNIRS), non-pharmacological psychiatric therapies (meditation and mindfulness-based cognitive therapies, neurofeedback, non-invasive brain stimulation), neuroplasticity and depression, TMS for the treatment of suicidality