Plyfaa Suwanamalik-Murphy

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EDUCATION & TRAINING

National Institute of Mental Health (NIMH), National Institutes of Health (NIH) — *Bethesda, MD*
Section on Functional Imaging Methods (**Principal Investigator:** Peter Bandettini)
Post-baccalaureate Research Fellow, June 2024 – June 2026
Awarded two-year NIH Postbaccalaureate Intramural Research Training Award (IRTA)

University of California, Davis (UC Davis)
Bachelor of Arts in Cognitive Science
GPA: 3.8 / 4.0 | Graduation date: June 2024

RESEARCH EXPERIENCE

National Institute of Mental Health (NIMH), National Institutes of Health (NIH) — *Bethesda, MD*
Post Baccalaureate Research Fellow, June 2024 – present
Principal Investigator: Peter Bandettini, PhD/Biophysics. **Advisor:** Sharif Kronemer, PhD

- Investigated how pupil size trends shape perceptual sensitivity and consciousness in real-time.
- Led processing and analysis of behavioral and eye-tracking data in MATLAB, including visualizing perception rate and reaction time; processed binary blink, pupil size, and microsaccade data as signal waveforms.
- Acted as primary liaison for recruitment of over 45 research participants; assisted with fMRI and behavioral data collection, ensuring adherence to NIH safety and privacy regulations.
- Presented research findings at international and internal conferences, including the Association for the Scientific Study of Consciousness, NIH Postbac Poster Day, and NIH Three Minute Talk competition.
- Accepted for a poster presentation at the 2025 Society for Neuroscience conference in San Diego.

Department of Experimental Psychology, University of Oxford — *Oxford, United Kingdom*
Visiting Research Scholar, June 2023 – September 2023
Principal Investigator: Hannah Smithson, PhD/Psychology. **Advisor:** Shiwen Li, DPhil candidate

- Programmed a pilot experiment to investigate color perception of iridescent materials.
- Engineered a custom viewing platform enabling participants to manipulate 1cm x 1cm iridescent stimuli tiles. This platform offered investigation into how viewing angle influences the perception of substrate color, surface texture, and material composition.
- Recruited, managed, and ran participants on a High Dynamic Resolution (HDR) display capable of mirroring dramatic shifts in hue and luminance, characteristic of iridescent objects.
- Developed data visualization pipelines in MATLAB for plotting iridescent samples and response patterns.

University of California, Davis, Center for Neuroscience — *Davis, CA*
UC Davis Neuroprosthetics Lab
Fellowship Awardee, September 2023 – September 2024
Principal Investigator: Sergey Stavisky, PhD/Neurosciences. **Advisors:** Daril Brown, PhD & Nicholas Card, PhD

- Research funded under the Simons Foundation's Shenoy Undergraduate Research Fellowship in Neuroscience.
- Lab's primary goal is to improve therapeutic brain-computer interface (BCI) systems designed to restore communication abilities in individuals with a diminished or lost ability to speak and communicate.
- Pre-processed and analyzed data from microelectrode and electrode recordings using Python to investigate single-neuron activity in a human subject with amyotrophic lateral sclerosis (ALS) during speech tasks.

University of California, Davis, Center for Mind and Brain — *Davis, CA*
Visual Cognition Lab
Undergraduate Research Assistant, March 2022 – August 2023
Principal Investigator: John Henderson, PhD/Cognitive Psychology. **Advisors:** Alan Lu, PhD candidate & Alexandra Therodoru, PhD candidate

- Designed and led a project investigating search performance for target and distract objects with varying semantic roles.
- Collected eye-tracking data and managed participants; organized and cleaned datasets for further analysis.
- Annotated over 200 image stimuli using the Computer Vision Annotation Tool (CVAT) for projects focusing on object depth information.
- Conducted a literature review on the main theories and narratives surrounding search performance and scene semantics.

University of California, Davis, Center for Mind and Brain — *Davis, CA*
Laboratory for the Neural Mechanisms of Attention & Cognitive Neurolinguistics Laboratory
Undergraduate Research Assistant, September 2022 – June 2023
Principal Investigators: George R. Mangun, PhD/Neurosciences & David Corina, PhD/Psychology/Cognitive Neuroscience. **Advisors:** Lee Holcomb, PhD candidate & Elizabeth Pierotti, PhD

- Contributed to two projects: **(1)** investigated whether spatial attention modulates the C1 component and **(2)** examined auditory ERP responses with hearing children and children with cochlear implants.
- Managed participant recruitment and assisted in EEG data acquisition using 64-channel Synamps2 EEG system, including measuring impedances and ensuring correct functioning of system and active electrodes from Brainvision.
- Utilized Steve Luck's ERPLab and EEGLab (MATLAB) for data analysis and CURRY for EEG recording.
- Analyzed and edited auditory stimuli (i.e., vocoded speech) using Audacity for current and future experiments.

University of Hawai'i at Mānoa — *Honolulu, HI*
Brain and Behavior Laboratory & Intergroup Social Perception Lab
Undergraduate Research Assistant, June 2022 - August 2022
Principal Investigators: Jonas Vibell, PhD/Cognitive Neuroscience & Kristin Pauker, PhD/Social and Developmental Psychology. **Advisor:** Salena Diaz, PhD

- Investigated multisensory perception and attention using EEG in healthy adult participants.
- Conducted a literature review on children's relationship with racial categorization, hypodescent, and racial biases.
- Led EEG capping and participant management; assembled EEG computer and monitor setup required for brain rehabilitation projects.
- Contributed to a project involving cross-race effect on early development based on geographical location in the U.S.; findings accepted as an abstract at *SPSP 2023*.
- Conducted data organization and analysis using SPSS, R, and Google Sheets.

Hawaii Pacific Neuroscience — *Honolulu, HI*
Summer Intern, June 2022 - August 2022
Faculty Advisor: Jason Viereck, MD/PhD

- Researched the prevalence of psychiatric disorders in multiple sclerosis patients with immune comorbidities by implementing a retrospective study with data from Hawaii Pacific Neuroscience's clinic.

AWARDS & GRANTS

NIMH IRP Trainee Travel Award — IRP Fellows' Scientific Training Day
September 2025 — $1,000
ASSC Travel Award for Early Career Researchers — *Association for the Scientific Study of Consciousness*
May 2025 — $500
Undergraduate Travel Award – *UC Davis*
January 2024 — $500
Shenoy Undergraduate Research Fellowship in Neuroscience — *Simons Foundation*
August 2023 — $7,500
Experiential Learning Opportunity Grant — *UC Davis*
June 2023 — $3,600
Provost's Undergraduate Fellowship – *UC Davis*
June 2023 — $808
UK Rank Prize Undergraduate Vacation Grant
May 2023 — $5,500
Maximizing Access to Research Careers (MARC) Program
April 2023 — Received support for university tuition and a monthly stipend.

PUBLISHED ABSTRACTS

Chang, S., **Suwanamalik-Murphy, P.,** Okazaki, J., Roy, D., Matsunaga, M., Goo, C., Carrazana, E., Viereck, J., & Liow, K. (2023). Investigating the prevalence of psychiatric disorders in multiple sclerosis with autoimmune comorbidities (P5-3.008). *Neurology, 100* (17 Suppl 2). https://doi.org/10.1212/WNL.0000000000202503

POSTER PRESENTATIONS & TALKS

Suwanamalik-Murphy, P., Gobo, V., Gonzalez-Castillo, J., Benitez-Andonegui, A., Bandettini, P., & Kronemer, S. (2025, November 15–19). *Investigating eye metrics as an indicator of sensory neural processing, behavior, and conscious perception* [Conference presentation]. Society for Neuroscience Annual Meeting, San Diego, CA, USA.

Suwanamalik-Murphy, P., Gobo, V., Gonzalez-Castillo, J., Benitez-Andonegui, A., Bandettini, P., & Kronemer, S. (2025, November 15–19). *Examining How Spontaneous Eye Measures Indicate Conscious and Unconscious Sensory Neural Processing* [Conference presentation]. NIMH IRP Fellows' Scientific Training Day, Washington, D.C., USA

Suwanamalik-Murphy, P. (2025, September 25). *The eyes know what the brain hears* [Lightning Talk]. NIMH IRP Fellows' Scientific Training Day. Selected to present research in a 10-minute talk; one of two postbacs chosen among predominantly PhD candidates and postdocs.

Suwanamalik-Murphy, P. (2025, September 3). *What the eyes reveal about the brain* [Three-Minute Talk]. NIMH Three Minute Competition, Preliminary Round.

Suwanamalik-Murphy, P., Gobo, V., Gonzalez-Castillo, J., Benitez-Andonegui, A., Bandettini, P., & Kronemer, S. (2025, July 6–9). *How brain states linked to spontaneous pupillary fluctuations modify conscious and unconscious sensory neural processing* [Conference presentation]. Association for the Scientific Study of Consciousness, Heraklion, Crete, Greece.

Suwanamalik-Murphy, P., Gobo, V., Gonzalez-Castillo, J., Benitez-Andonegui, A., Bandettini, P., & Kronemer, S. (2025, May 9). *How brain states associated with spontaneous pupillary fluctuations alter conscious and unconscious sensory neural processing* [Poster presentation]. NIH Postbac Poster Day, Bethesda, MD, USA.

Mason, T., **Suwanamalik-Murphy, P.**, Tenorio, K., Diaz, S., Pauker, K., Gaither, S., Halim, M., Dunham, Y., & Olson, K. (2023, February 24). *Variability in the cross-race effect among geographically diverse White children* [Conference presentation]. Society for Personality and Social Psychology Annual Convention, Atlanta, GA, USA.

Shehabi, S., **Suwanamalik-Murphy, P.,** Pierotti, E., & Corina, D. (2023, April 17). *An ERP study investigating the influence of audiovisual cues on speech recognition* [Conference presentation]. Stanford University, Stanford, CA, USA.

Chang, S., **Suwanamalik-Murphy, P.,** Okazaki, J., Roy, D., Goo, C., Liow, K., Viereck, J., & Carrazana, E. (2023, April 22). *Investigating the prevalence of psychiatric disorders in multiple sclerosis with autoimmune comorbidities* [Conference presentation]. American Academy of Neurology Annual Meeting, Boston, MA, USA. https://www.aan.com/MSA/Public/Events/AbstractDetails/53437

Suwanamalik-Murphy, P., Shehabi, S., Laurie, N., Pierotti, E., & Corina, D. (2023, April 27). *The impact of audiovisual cues on speech recognition: An ERP study* [Conference presentation]. Undergraduate Research Conference, Davis, CA, USA. https://urc.ucdavis.edu/sites/g/files/dgvnsk3561/files/inline-files/2023%20URC%20Abstract%20Book%20V.2.pdf

SERVICE & LEADERSHIP ACTIVITIES

Naloxone Network — *Washington, D.C. & Bethesda, MD*
Weekend Volunteer, January 2025 – present
- Distributed Narcan (naloxone) and food to communities at high risk of opioid overdose.

UC Davis Cognitive Science Student Association (CSSA) — *Davis, CA*
Project Manager, June 2023 - June 2024
- Designed and led networking events and hands-on workshops to support cognitive science students' academic and professional development.

The Aggie Transcript: Psychology — *Davis, CA*
Treasurer and Senior Editor, January 2023 – June 2024
- Secured journal funding through grant writing and managed finances.
- Edited undergraduate research articles for publication.

San Francisco Youth Commission — *San Francisco, CA*
District 4 Youth Commissioner (Vice-Chair), September 2020 – September 2021
- Advised Mayor London Breed and the San Francisco Board of Supervisors on issues affecting youth, facilitated youth committee meetings, and spoke alongside state senators at environmental advocacy events.

Mariachi Fundraiser — *San Francisco, CA*
Fundraiser Organizer, May 2020
- Organized an online mariachi concert and fundraiser supporting undocumented workers excluded from federal COVID-19 relief. Managed and distributed funds via UndocuFund SF and the SF Chinese Progressive Association. Fundraiser Link

PROFESSIONAL MEMBERSHIPS

Society for Neuroscience (SfN) – Individual Member
June 2025 - June 2026

LANGUAGES

- English (fluent)
- Thai (receptive bilingual)