

# PEREMOBOERE TRACY UZOIGWE

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## Education

2023 - Present	Ph.D. in Cognitive Neuroscience, University of California, Irvine, CA
2023 - 2026	M.Sc in Cognitive Neuroscience, University of California, Irvine, CA
2012 - 2016	B.Sc in Anatomy, Igbinedion University, Okada, Nigeria

## Skills

**Programming Languages:** MATLAB and R Studio

**Brain Imaging Skills:** fMRI data collection and processing, related software packages including SPM, EEG/PSG techniques and signal processing, sleep stage scoring, related software packages including BrainVision Analyzer, and EEGLAB. Simultaneous EEG/fMRI methods.

**Statistics:** General linear models, time-series analysis, probabilistic classification, basic machine learning algorithms, and data visualization.

**Other:** Qualtrics, PsychoPy, REDCap, Operant conditioning, rodent handling, and rodent surgery.

## Honors and Awards

2025 - 2026	P.E.O International Scholarship Award (\$12,500)
2024 - 2025	P.E.O International Scholarship Award (\$12,500)
2024 - 2025	WAC+WID Graduate Scholar Award (\$5,000)
2024 - 2025	Mentor - UCI Undergraduate Research Fellowship Award (\$1,600)
2023 - 2024	UCI School of Social Sciences Graduate Fellowship (\$28,250)
2013 - 2017	Nigerian Petroleum Development Company Scholarship

## Research Experiences

2023 - Present	<p><b>Graduate Student Researcher, University of California, Irvine, CA, USA</b> (PI: Sara Mednick)</p> <ul style="list-style-type: none"><li>- An investigation of how the menstrual cycle interacts with neurophysiological sleep to affect mood in healthy young women. (<b>Funding:</b> NIH R01 AG061355) <b>Role:</b> Collected project data, developed analysis idea, mentored and trained undergraduate research assistants, and prepared manuscript for publication.</li><li>- The impact of sleep on motor skills learning (<b>Funding:</b> UCI Arts Research and Innovation Grant, UCI UROP) <b>Role:</b> Develop project idea, prepared grant proposal, developed cognitive tasks, set up study protocol, collected data, developed analysis idea, mentored and trained undergraduate research assistants.</li><li>- The impact of sleep on spatial navigation memory <b>Role:</b> Collected project data (<b>Funding:</b> UCI UROP)</li></ul>
2022	<p><b>Student, Neuromatch Computational Neuroscience Summer Program, USA</b> (Mentor: Dr. Steeve Laquitaine)</p> <ul style="list-style-type: none"><li>- An investigation of the prediction of lapses in a decision-making task for mice using the IBL 2AFC dataset. <b>Role:</b> Conducted literature review, cleaned the dataset, and conducted data analysis.</li></ul>

2016 - 2019

**Research Assistant, Igbinedion University, Okada, Edo State, Nigeria**

(PI: Uche Okwuonu)

- An investigation of histomorphological changes in the brain following Rohypnol exposure in Wistar rats  
**Role:** Conducted behavioral testing (contextual and cued fear conditioning; open-field assays), performed cerebellar histological analyses using light and fluorescence microscopy, organized morphometric datasets, generated figures for presentations, and contributed to manuscript preparation.
- An investigation of the neuroreproductive effects of acrylamide exposure in male Wistar rats.  
**Role:** Performed literature synthesis, collected and curated organ-weight datasets, analyzed reproductive and neural tissue outcomes using SPSS and MATLAB, and prepared materials for conference and publication outputs.
- Effects of *Aspilia africana* aqueous flower extract on reproductive parameters in male and female Wistar rats  
**Role:** Conducted phytochemical and elemental analyses, performed sperm parameter assessments, organized experimental datasets (n = 185 animals), and contributed to the interpretation of reproductive toxicity outcomes, and contributed to manuscript preparation.
- **Undergraduate Thesis:** Effects of lead acetate exposure and antioxidant supplementation on cerebellar architecture and motor cognition in Wistar rats  
**Role:** Designed pilot handling protocol, processed cerebellar tissue using H&E and immunohistochemistry, evaluated 60 histological sections, analyzed behavioral and morphometric data using SPSS, and synthesized findings into a thesis-level research report.

**Publications** (h-index: 2, total citations: 41)

- Shuster, A.E., Morehouse, A., McDevitt, E.A., Chen, P.C., Whitehurst, L.N., Zhang, J., Sattari, N., **Uzoigwe, P.T.**, Ekhlasi, A., Cai, D., Simon, K., Niethard, N., & Mednick, S.C. (2025). REM refines and rescues memory representations: A new theory. *Sleep Advances*. <https://doi.org/10.1093/sleepadvances/zpaf004>
- Okwuonu, U.C., Njoya, H.K., & **Uzoigwe, P.T.** (2024). Impact of lemon peel phenolic extract on the oestrus cycle and uterine histoarchitecture in female Wistar albino rats. *International Journal of Biological Sciences*. <https://doi.org/10.33545/26649926.2024.v6.i1c.209>
- Okwuonu, U.C., Eze, G.I., Njoya, H.K., Adagboyin, O., & **Iyemene, P.T.** (2020). Alterations in sperm parameters of adult male Wistar rats following exposure to aqueous flower extract of *Aspilia africana*. *International Journal of Advanced Academic Studies*, 2(2), 70–76.
- Okwuonu, U.C., Eze, G.I., Omotosho, D., Njoya, H.K., Adagboyin, O., Bienonwu, E.O., Uwagbor, V.S., & **Iyemene, P.T.** (2020). Histological changes in the testis and epididymis of Wistar rats following administration of varying doses of aqueous extract of *Aspilia africana* flowers. *International Journal of Applied Research*, 2(2), 70–76.
- Okwuonu, U.C., Uwagbor, V.S., Clement, T.D., & **Iyemene, P.T.** (2020). Histological changes in the cerebellum of Rohypnol-treated Wistar rats. *International Journal of Medical and Health Research*, 6(6), 77–79.
- Okwuonu, U.C., Ugo, O.D., & **Iyemene, P.T.** (2017). Histological effects of acrylamide on the reproductive organs of male rats. *International Journal of Science and Research*, 6(6), 1884–1889.
- Okwuonu, U.C., Dorothea, B.-G., Njoya, H., & **Iyemene, P.T.** (2017). Phytochemical, proximate, and elemental constituents of *Aspilia africana* (wild sunflower) flowers. *Journal of Medicinal Plant Studies*, 5(4), 22–27

## Invited / Selected Talks

- Uzoigwe, P.T. (2026).** Menstrual cycle effects on sleep and mood: REM sleep is a mood buffer for young women during menses. Talk presented at the SLEEP 2026, Baltimore, MD
- Uzoigwe, P.T. (2026).** Menstrual cycle influences the neurophysiology of sleep and mood: REM sleep is a mood buffer for young women during menses. Datablitz talk presented at the 2026 Spring Conference of the Center for the Neurobiology of Learning and Memory, Irvine, CA
- Uzoigwe, P.T. (2025).** Menstrual cycle influences the neurophysiology of sleep-linked mood variability. Datablitz talk presented at Society for Neuroscience (SfN) 2025, San Diego, CA.
- Uzoigwe, P.T. (2021).** Histomorphological changes in ovarian and uterine tissues of adult Wistar rats following exposure to aqueous extract of *Aspilia africana* flowers. Oral presentation at the 17th Annual Scientific Conference of the Anatomical Society of Nigeria, University of Ilorin, Nigeria.
- Uzoigwe, P.T. (2019).** Histological changes in the cerebellum of Rohypnol-treated Wistar rats. Oral presentation at the 16th Annual Scientific Conference of the Anatomical Society of Nigeria, University of Calabar, Nigeria.

## Conference Presentations

- Uzoigwe, P.T. (2025).** Menstrual cycle influences the neurophysiology of sleep-linked mood variability. Poster presented at Society for Neuroscience (SfN) 2025, San Diego, CA.
- Uzoigwe, P.T., Shuster, A., Morehouse, A., Pena, A., Simon, K., Sattari, N., Zhang, J., Gombert, M., Baker, F., & Mednick, S.C. (2025).** The interplay between mood and sleep at different phases of the menstrual cycle. Poster presented at SLEEP 2025, Seattle, WA.

## Published Conference Abstracts

- Uzoigwe, P.T., Shuster, A., Morehouse, A., Pena, A., Simon, K., Sattari, N., Zhang, J., Gombert, M., Baker, F., & Mednick, S.C. (2025).** The interplay between mood and sleep at different phases of the menstrual cycle. *SLEEP*, 48(Supplement\_1), A85–A86.
- Adekoya, T., Shuster, A., Morehouse, A., **Uzoigwe, P.T.**, Chen, Y., Ekhlasi, A., Zhang, J., Sattari, N., Gombert, M., Baker, F., Simon, K., & Mednick, S.C. (2025). Sleep-dependent working memory across the menstrual cycle. *SLEEP* 2025, Seattle, WA. <https://doi.org/10.1093/sleep/zsaf090.0115>
- Ekhlasi, A., Shuster, A., Morehouse, A., **Uzoigwe, P.T.**, Sattari, N., Zhang, J., Gombert, M., Baker, F., Simon, K., Malerba, P., & Mednick, S.C. (2025). Sex hormones shape spindle activity across the menstrual cycle. *SLEEP* 2025, Seattle, WA.
- Chen, Y., Shuster, A., Morehouse, A., **Uzoigwe, P.T.**, Adekoya, T., Ekhlasi, A., Zhang, J., Sattari, N., Gombert, M., Baker, F., Simon, K., & Mednick, S.C. (2025). REM EEG events are modulated by menstrual cycle and sex hormones. *SLEEP* 2025, Seattle, WA. <https://doi.org/10.1093/sleep/zsaf090.0384>

## Media Coverage

- Uzoigwe, P.T. (2026).** Sleep, hormonal changes during menstruation affect women's mood. Interview in Sunday Punch. <https://healthwise.punchng.com/sleep-hormonal-changes-during-menstruation-affect-womens-mood-uzoigwe/>
- Uzoigwe, P.T. (2024).** From anatomy to algorithms: Peremoboere T. Uzoigwe's journey through the sleeping brain. <https://thenationonlineng.net/from-anatomy-to-algorithms-peremoboere-t-uzoigwes-journey-through-the-sleeping-brain/>

## Teaching and Mentoring

2026 - Present

Graduate Student Tutor, Westminster High School, Westminster, CA, USA

- An investigation of how the menstrual cycle interacts with neurophysiological sleep to affect mood in healthy young women. (**Funding:** NIH R01 AG061355)

2024 - Present

**Teaching Assistant, Department of Cognitive Sciences, UC Irvine, CA, USA**

- Sleep and Memory (Spring 2026) – guided students through sleep science concepts and research methods; supported course assessments and discussions, graded paper reports.
- Perception Research (Winter 2026) – facilitated discussion sessions; supported experimental design instruction; graded assignments and reports.
- Sleep and Consciousness (Fall 2025) – guided students through sleep science concepts and research methods; supported course assessments and discussions.
- Sleep and Consciousness (Summer 2025) – evaluated written assignments; provided structured feedback on sleep research interpretation and synthesis.
- Experimental Research in Psychology (Spring 2025) – guided students through sleep science concepts and research methods; supported course assessments and discussions.
- Probability and Inference (Winter 2025) – assisted instruction in statistical reasoning and modeling; supported coursework and student problem-solving.
- Introduction to fMRI Research (Fall 2024) – supported instruction on neuroimaging methods and analysis workflows; graded reports and assignments.
- Abnormal Psychology (Summer 2024) – facilitated discussions on psychiatric neuroscience frameworks; supported evaluation of written coursework.

2025

**Graduate Science Mentor, Irvine Brain Camp**

- Mentored five high school students across a two-week research training program; guided project development and presentation preparation in introductory neuroscience research.

2025

**Graduate Trainee Mentor, Neuroscience Summer Brain Institute**

- Trained an undergraduate senior scholar in sleep research protocols, including EEG, ECG, and EMG setup, participant scheduling, and experimental workflow implementation.

2024 - 2025

**Mentor, UROP Research Discovery Program, University of California, Irvine**

- Support four undergraduate student mentees in participating in research at UCI.
- Lead workshops, group meetings, and individual meetings to help mentees get involved in research, connect with faculty, and develop professional skills.

2023 - 2024

**Teaching Assistant, Computational Neuroscience, Neuromatch Academy**

- Led discussion sections for undergraduate trainees
- Supported computational modeling instruction
- Coordinated small-group learning sessions

2017

**Undergraduate Tutor, Igbinedion University, Okada, Edo State, Nigeria**

- Neuroanatomy and Histology instruction for 2nd- and 3rd-year students; supervised seminar preparation for final-year undergraduate researchers.

**Professional Society Memberships**

2025

Society for Neuroscience(SFN)

2025

Sleep Research Society(SRS)

2025

American Academy of Sleep Medicine(AASM)

## Certifications

- 2025 Writing Pedagogy Certificate  
2024 Mentoring Excellence Certificate

## Community Outreach and Service

- 2025 - Present **Member, Sleep Research Society, Trainee Subcommittee**
- Support Trainee Leaders in planning and executing trainee programs at the SRS SLEEP Conference 2026
- 2023 - Present **Volunteer, Center for Neurobiology for Learning and Memory(CNLM), UCI**
- Co-chair for adult outreach, assisting in organizing neuroscience outreaches for adults in the Orange County colleges and community.
  - Ambassador for K-12 outreach, assisting in organizing neuroscience outreaches for high school students.
- 2020 - Present **Founder, Chenemaro Initiative for Nigerian Students (CINS)**
- Organized community projects in public secondary schools targeted toward the quality of learning in Nigeria.
  - Organized the academic crushers' seminar in 3 public secondary schools in Enugu, Nigeria.
  - Provided online academic support for over 30 secondary school students during the COVID-19 Pandemic lockdown.
- 2020 - 2023 **Delta State Coordinator & Decent Work Youth Champion**
- Mobilized youths in Delta State for the United Nations decent work advocacy project in Nigeria.
  - Hosted the biweekly decent work online talk show to improve access to decent work among Nigerian youths.
- 2020 **In-House Counselor - Volunteer, Mentally Aware Nigeria**
- Provided online counseling support for 25 individuals affected during the heat of the COVID-19 pandemic.