

Brian Thomas Lord
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[Google Scholar](#)

RESEARCH INTERESTS

Cognitive Neuroscience; Neuromodulation; Neurotechnology; Psychophysiology; Meditation; Consciousness

EDUCATION

2024 *University of Arizona, Ph.D., Psychology* (Cognition & Neural Systems)
2021 *University of Arizona, M.A., Psychology* (Cognition & Neural Systems)
2019 *University of West Georgia, M.A., Humanistic Psychology*
2012 *Oglethorpe University, B.S., Biological Psychology*

2023 *Unified Mindfulness, Certification: Meditation Teacher*

APPOINTMENTS

2026- **Postdoctoral Researcher**, Bever Lab, University of Arizona
2024-2025 **Postdoctoral Researcher**, SEMA Lab, University of Arizona
2019-2024 **Graduate Research Assistant**, University of Arizona
2017-2019 **Graduate Research Assistant**, University of West Georgia

PUBLICATIONS

Articles

- Ehmann, S., **Lord, B.**, Cook, E., Brookman, H. B., Roces, J. A., Peck, T., Young, S., Sacchet, M. D., Allen, J. J., & Sanguinetti, J. L. (2025). Enhancing Meditative Development with Transcranial Focused Ultrasound: A Mixed-Methods Phenomenological Study of Neuromodulation in Experienced Meditators During a Ten-Day Retreat (No. uxrwy_v1). PsyArXiv. https://doi.org/10.31234/osf.io/uxrwy_v1
- **Lord, B.**, Allen, J.J.B., Young, S., Sanguinetti, J. (2025). Enhancing Equanimity through Non-Invasive Brain Stimulation: A Novel Framework for Mindfulness Interventions. *Biological Psychiatry*.
- **Lord, B.**, Sanguinetti, J., Ruiz, L., Miskovic, V., Segre, J., Young, S., Fini, M.E., Allen, J.J.B. (2024). Transcranial Focused Ultrasound to the Posterior Cingulate Cortex Modulates Default Mode Network: A Pilot Study. *Frontiers in Human Neuroscience*. [10.3389/fnhum.2024.1392199](https://doi.org/10.3389/fnhum.2024.1392199)
- **Lord, B.**, & Allen, J.J.B. (2023). Evaluating EEG complexity metrics as biomarkers for depression. *Psychophysiology*, e14274. [10.1111/psyp.14274](https://doi.org/10.1111/psyp.14274)

Books

- **Lord, Brian.** (2018). Editor's preface to *Psychic Literacy*, by Ingo Swann, 2-3. BioMind Superpowers Books.

Posters

- Shlimovitz, E., **Lord, B.**, Fife, E., Allen, J.J.B. (2024). The Effects of Transcranial Focused Ultrasound on Alpha Power. SPR 2024. Prague, Czech Republic.
- Fife, E., **Lord, B.**, Shlimovitz, E., Allen, J.J.B. (2024). The Effects of Transcranial Focused Ultrasound Stimulation to the Posterior Cingulate Cortex on Individual Alpha Frequency. SPR 2024. Prague, Czech Republic.
- **Lord, B.**, Sanguinetti, J.L., Ruiz, L., Miskovic, V., Segre, J., Allen, J.J.B. (2023). Using Transcranial Focused Ultrasound to Alter Default Mode Network (DMN) Functional Connectivity and Subjective Experience. SPR 2023. New Orleans, LA.

IN PREPARATION

- **Lord, B.**, Cook E., Sanguinetti J., Beaman L., Schachtner J., Young S., and Allen, J.J.B. "Facilitating Mindfulness Training with Ultrasonic Neuromodulation." In preparation.
- **Lord, B.**, Sanguinetti, J., Fife, E., Shlimovitz, E., Allen, J.J.B. "Modulation of Individual Alpha Frequency with Transcranial Focused Ultrasound." In preparation.
- Manchanda, S., Cook E., **Lord B.**, and Sanguinetti J., "Effects of Pulsed Photobiomodulation on Meditation and Mystical States." In preparation.

GRANTS & FUNDING

- 2023 *University of Arizona, Sensor Lab Seed Grant*
Role: PI/Co-PI. Project: Meditation & Astroskin. \$50,000
- 2024 *University of Arizona. Atlantic Foundation*
Role: PI/Co-PI. Project: Meditation Retreat. \$10,000

TALKS & PRESENTATIONS

- Kuhn, R.L., Baruss, I. **Lord, B.** (2025). Working Session on Taxonomy of Consciousness. The Science of Consciousness Conference, Barcelona, Spain.
- **Lord, B.** (2024). Ultrasound Enhanced Meditation at SEMA Lab. The Science of Consciousness Conference, Tucson, AZ.
- **Lord, B.** (2023). Varieties of Remote Viewing Experiences. The Science of Consciousness Conference, Taormina, Italy.
- **Lord, B.** (2023). Ultrasound Enhanced Meditation. The Society for Psychophysiological Research, New Orleans, LA.
- **Lord, B.**, Sanguinetti, J., Ruiz, L., Miskovic, V., Segre, J., Young, S., Fini, M.E., Allen, J.J.B. (2023). Using Transcranial Focused Ultrasound to Alter Default Mode Network and Subjective Experience. The Science of Consciousness Conference, Taormina, Italy.

- **Lord, B.**, Sanguinetti, J., Ruiz, L., Miskovic, V., Segre, J., Allen, J.J.B. (2022). Modulating Default Mode Network Functional Connectivity with Transcranial Focused Ultrasound. Focused Ultrasound Neuromodulation (FUN22) Conference, Mainz, Germany.
- **Lord, B.** (2018). Ingo Swann: Artist, Author, Consciousness Researcher. Primary Sources in Psychology Symposium. Ingram Library, University of West Georgia.

MEDIA & PRESS

- Scientific American. “Ultrasound Brain Stimulation Boosts Mindfulness.” August 2024. <https://www.scientificamerican.com/article/ultrasound-brain-stimulation-boosts-mindfulness/>
- UANews. “Ultrasound technology can be used to boost mindfulness, study finds.” July 2024. <https://news.arizona.edu/news/ultrasound-technology-can-be-used-boost-mindfulness-study-finds>
- UANews. “Researchers explore the use of ultrasound to achieve mindfulness.” June 2023. <https://news.arizona.edu/news/researchers-explore-use-ultrasound-achieve-mindfulness>
- The Guardian. “Hacking enlightenment: can ultrasound help you transcend reality? – video.” June 2021. <https://www.theguardian.com/lifeandstyle/video/2021/jun/29/hacking-enlightenment-can-ultrasound-help-you-transcend-reality>

TEACHING & MENTORING

2024	<i>University of Arizona, Instructor</i> PSY300: Cognitive Neuroscience: A Guide to Brain and Mind 183 enrolled students, received 95-97% positive ratings from students
2020-2024	<i>University of Arizona, Research Assistant</i> Trained and mentored 10+ undergraduate research assistants in EEG acquisition, tFUS administration, EEG preprocessing, basic data analysis, poster presentations

RESEARCH EXPERIENCE

2026	<i>University of Arizona, Postdoctoral Researcher</i> Advisor: Tom Bever
	<ul style="list-style-type: none"> • Led an undergraduate laboratory developing a machine-learning brain computer interface pipeline.
2025–2026	<i>Mind Science Institute, Consultant Scientist, Lead</i>
	<ul style="list-style-type: none"> • Designed a “Mind Gym” neurofeedback experience. • Developed novel pipelines for measuring real-time meditation state via EEG.

- Assisted in multiple retreat-style events that engaged with frontier neurotechnology.

2025 *Confidential client (NDA), Consultant Scientist, Lead*

- Designed an IRB-compliant psychophysiological research study.
- Designed a laboratory and performed pilot research into anomalous consciousness phenomena.

2022–2025 *Integrative Counseling Services, Consultant Scientist, Lead*
 Vielight, Neuromatrix
 Advisor: Sanjay Manchanda

- Designed and ran IRB-compliant research studies on meditation enhancement with infrared photobiomodulation devices; administered infrared photobiomodulation, EEG, and surveys.
- Led analysis and manuscript drafting.

2024–2025 *University of Arizona, Postdoctoral Researcher*
 Advisors: John JB Allen, Jay Sanguinetti

- Co-designed and co-led a naturalistic tFUS retreat study on experienced meditators; integrated surveys with qualitative measures.
- Designed and led a synchronized tFUS-EEG experiment probing modulation of individual alpha frequency (IAF) using a custom automated parameter-calculation pipeline (MATLAB).
- Designed a multimodal psychophysiological protocol (EEG/respiration/HR/blood pressure/motion) for a tFUS study.

2019–2024 *University of Arizona, Graduate Research Assistant*
 SEMA Lab

Advisors: John JB Allen, Jay Sanguinetti

- Co-authored 10+ papers/talks, mentored 10+ RAs, ran 150+ participants across 6+ studies.
- Led data collection and analysis across EEG, MRI, psychometric, behavioral, endocrinological, and qualitative modalities.
- Built adaptable, synchronized EEG+tFUS acquisition/delivery systems (Python/PschoPy/CURRY) for use across 4+ projects.
- Designed a novel individualized DMN-targeting pipeline (MATLAB).

2017–2019 *University of West Georgia, Archivist/Graduate Research Assistant*
 Special Collections, Ingram Library
 Advisor: Blyne Olivieri

- Completed archival processing of the Ingo Swann Papers.
- Built a museum exhibit out of materials from the collection.
- Edited and published a manuscript that was found in the collection – *Psychic Literacy*

METHODS & TOOLS

- **Analysis & Modeling:** MATLAB, Python, R, PsychoPy

- **Toolboxes/Frameworks:** EEGLAB, Brainstorm, Neuropype, SPM, FSL, CONN, GIFT, BrainSuite, k-Wave, Antigravity, Cursor
- **Infrastructure & Reproducibility:** Git, Docker, QC, de-identification
- **Neuroimaging:** MRI (T1, BOLD, ASL, DTI); EEG (ERP, time-frequency, connectivity, complexity, aperiodic/1-f)
- **Neuromodulation:** tFUS, unfocused ultrasound, infrared photobiomodulation
- **Instrumentation:** EEG (dry, gel, saline sponge); basic electronics integration for tFUS (function generator, amp, oscilloscope); hydrophone measurement of tFUS output

SERVICE & PROFESSIONAL

- **Executive Committee, *The Science of Consciousness*** – Barcelona, Spain (2025)
Responsibilities: secured key speakers, program curation, abstract review (~600)
- **Journal Peer Review, *Biological psychiatry global open science*, NeuroImage**