Brian Thomas Lord

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Google Scholar

RESEARCH INTERESTS

Cognitive Neuroscience; Neuromodulation; 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

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

- **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
- **Lord, B**., & Allen, J.J.B. (2023). Evaluating EEG complexity metrics as biomarkers for depression. Psychophysiology, e14274. 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 — *University of Arizona*, **Instructor**
PSY300: Cognitive Neuroscience: A Guide to Brain and Mind
183 enrolled students, received 95-97% positive ratings from students

2020-2024 — *University of Arizona*, **Research Assistant**
Trained and mentored 10+ undergraduate research assistants in EEG acquisition, tFUS administration, EEG preprocessing, basic data analysis, poster presentations

RESEARCH EXPERIENCE

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.

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/PsychoPy/CURRY) for use across 4+ projects.
- Designed a novel individualized DMN-targeting pipeline (MATLAB).

2022-2024 *Integrative Counseling Services,* **Scientist**
Vielight
Advisor: Sanjay Manchanda

- Ran IRB-compliant research study on meditation enhancement with infrared photobiomodulation; administered infrared photobiomodulation, EEG, and surveys.
- Led analysis and manuscript drafting.

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