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Psychological & Brain Sciences  
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## Professional Appointments

2024 – Present	Postdoctoral Associate Boston University, Boston, MA
2015 – 2017	Research Assistant Indian Institute of Science, Bengaluru, India

## Education

2017 – 2024	PhD, Psychology Concentration: Brain, Behavior & Cognition Boston University, Boston, MA
2017 – 2024	MA, Psychology Boston University, Boston, MA
2011 – 2015	BE (Hons) Mechanical Engineering Minor Certificate in Philosophy, Economics & Politics Birla Institute of Technology & Science, Pilani, Goa, India

## Peer-Reviewed Publications (\* denotes equal contribution)

1. Molho W, Raymond N, Reinhart RMG, Trotti R, Grover S, Keshavan M, Lizano P (2023). Lesion network guided delta frequency neuromodulation improves cognition in patients with psychosis spectrum disorders: A pilot study. **Asian Journal of Psychiatry**. 92, 103887.
2. Raymond N, Reinhart RMG, Trotti R, Parker D, Grover S, Turkozer B, Sabatinelli D, Hegde R, Bannai D, Gandu S, Clementz B, Keshavan M, Lizano P (2023). Efficacy and tolerability of lesion network guided transcranial electrical stimulation in outpatients with psychosis spectrum illness: A nonrandomized controlled trial. **Asian Journal of Psychiatry**. 88, 103750.
3. Grover S, Fayzullina R, Bullard BM, Levina V, Reinhart RMG (2023). tACS improves cognition in healthy, aging, and psychiatric populations: A systematic review and meta-

analysis. **Science Translational Medicine**. 15(697), eabo2044.

4. Cheng P, Grover S, Wen W, Sankaranarayanan S, Fragetta J, Davies S, Soto D, Reinhart RMG (2022). Dissociable rhythmic mechanisms enhance memory for conscious and nonconscious perceptual contents. **Proceedings of the National Academy of Sciences U. S. A.** 119(44): e2211147119.
5. Grover S, Wen W, Viswanathan V, Gill CT, Reinhart RMG (2022). Long-lasting, dissociable improvements in working memory and long-term memory in older adults with repetitive neuromodulation. **Nature Neuroscience**. 25:1237-1246.

Commentary: Rogers, J (2022). A frequency location to remember. *Nature Reviews Neuroscience*. 23:644645.

6. Grover S, Nguyen JA, Viswanathan V, Reinhart RMG (2021). High-definition neuromodulation improves obsessive-compulsive behavior. **Nature Medicine**. 27(2):232-238.

Commentary: Figuee M, Mayberg H (2021). The future of personalized brain stimulation. *Nature Medicine*. 27:196-197.

Commentary: Frohlich F, Riddle J, Abramowitz JS (2021) Transcranial alternating current stimulation for the treatment of obsessive-compulsive disorder? *Brain Stimulation*. 14(4):1048- 1050.

7. Grover S, Nguyen JA, Viswanathan V, Reinhart RMG (2021). Synchronizing brain rhythms to improve cognition. **Annual Review of Medicine**. 72:29-43.
8. Banerjee S\*, Grover S\*, Ganesh S, Sridharan D (2019). Sensory and decisional components of endogenous attention are dissociable. **Journal of Neurophysiology**. 122:15381554.
9. Banerjee S, Grover S, Sridharan D (2017). Unraveling causal mechanisms of top-down and bottom-up visuospatial attention with non-invasive brain stimulation. **Journal of The Indian Institute of Science**. 97:451475.

## Chapters and Invited Commentaries

1. Grover S, Keshavan MS, Lizano PL, Reinhart RMG (2021). Proximate markers of cognitive dysfunction in schizophrenia. **Schizophrenia Research**. 233:114115.
2. Grover S, Reinhart RMG (2020). Modulating anterior midcingulate cortex using theta burst stimulation. **Biological Psychiatry: Cognitive Neuroscience & Neuroimaging**. 5:10071008.

3. Grover S, Reinhart RMG (2019). Combining transcranial stimulation and electrophysiology to understand the memory representations that guide attention. In Pollman S. (Ed). Spatial Learning and Attention Guidance. **Neuromethods, Springer Nature**. New York, NY. pp. 1-29.

### **In Preparation/Under Review**

1. Wen W\*, Grover S\*, Hazel D, Reinhart RMG. Bidirectional control of impulsivity by integrating or segregating rhythmic brain circuits.
2. Wen W, Grover S, Hazel D, Berning P, Baumgardt F, Viswanathan V, Tween O, Reinhart RMG. Beta frequency neural variability reveals age-related dissociations in working memory maintenance and deletion. **PLoS Biology**.
3. Sengupta A\*, Banerjee S\*, Ganesh S, Grover S, Sridharan D. The right posterior parietal cortex controls spatial reorienting of attentional choice bias. **Nature Communications**.

### **Invited Talks**

1. High frequency neuromodulation improves obsessive-compulsive behavior. April 28<sup>th</sup>, 2023. *Society for Biological Psychiatry, San Diego, CA*.
2. High frequency neuromodulation improves obsessive-compulsive behavior. February 14<sup>th</sup>, 2023. *PS/NE 329 Experimental Psychology: Cognitive Neuroscience (Guest Lecture), Boston University, Boston, MA*.
3. Repetitive theta/gamma neuromodulation selectively improves dual memory stores in older adults. March 15<sup>th</sup>, 2022. *PS/NE 329 Experimental Psychology: Cognitive Neuroscience (Guest Lecture), Boston University, Boston, MA*.
4. Does transcranial alternating current stimulation (tACS) modulate cognitive function? A meta-analytic investigation. March 15<sup>th</sup>, 2022. *PS/NE 329 Experimental Psychology: Cognitive Neuroscience (Guest Lecture), Boston University, Boston, MA*.
5. High frequency neuromodulation improves obsessive-compulsive behavior. April 30<sup>th</sup>, 2021. *COBRE Center for Neuromodulation, Butler Hospital, Brown University, Providence, RI*.
6. High frequency neuromodulation improves obsessive-compulsive behavior. March 25<sup>th</sup>, 2021. *Brain, Behavior & Cognition Seminar, Boston University, Boston, MA*.
7. Does transcranial alternating current stimulation (tACS) modulate cognitive function? A meta-analytic investigation. March 3<sup>rd</sup>, 2018. *Brain, Behavior & Cognition Seminar*,

*Boston University, Boston, MA.*

8. Oscillatory dynamics of sequence learning. December 6<sup>th</sup>, 2018. *Brain, Behavior & Cognition Seminar, Boston University, Boston, MA.*

### **Conference Posters, Abstracts & Papers**

1. Lizano P, Raymond N, Trotti R, Grover S, Molho W, Oss E, Parker D, Turkozer B, Bannai D, Clementz B, Keshavan M, Reinhart RMG. Clinical and cognitive effects of lesion network guided neuromodulation delivered to the extrastriate visual cortex: A transdiagnostic therapy. *Consortium of Vision and Oculomics in Psychiatry*. Rochester, NY, U. S. A.
2. Rogers D, O'Brien WJ, Gao Y, Zimmerman B, Grover S, Zhang Y, Kawai Gaona A, Anderson J, Farzam PY, Cronin-Golomb A, Ellis TD, Kiran S, Somers DC, von Lüthmann A, Reinhart RMG, Boas DA, Yücel MA (2023). Co-localized optodes and electrodes allow for simultaneous HD-fNIRS-EEG measurements. *Organization for Human Brain Mapping*. Montréal, Canada.
3. Cheng P, Sankaranarayanan S, Davies S, Fragetta J, Grover S, Wen W, Soto D, Reinhart RMG (2022).  $\beta$  and  $\alpha$  entrainment preferentially enhance memory for conscious and nonconscious information. *Society for Neuroscience*. San Diego, U. S. A.
4. Grover S, Nguyen JA, Viswanathan V, Reinhart RMG (2021). Orbitofrontal beta-gamma rhythms influence reward processing and obsessive-compulsive behaviors. *Society for Neuroscience*. (Virtual).
5. Wen W, Grover S, Viswanathan V, Gill CT, Reinhart RMG (2021). Enduring memory improvements in older adults using high-definition transcranial alternating current stimulation. *Society for Neuroscience*. (Virtual).
6. Fayzullina R, Grover S, Bullard BM, Levina V, Reinhart RMG (2021). Does transcranial alternating current stimulation modulate cognition? A systematic review and meta-analysis. *Society for Neuroscience*. (Virtual).
7. Bullard BM, Levina V, Grover S, Reinhart RMG (2020). Effects of transcranial alternating current stimulation on visual cognition: A systematic review and meta-analysis. *Vision Science Society*. (Virtual).
8. Reinhart RMG, Grover S, Wang CX, Nguyen JA (2019). Improving working memory in older adults by synchronizing cortical interactions with alternating current. *3rd International Brain Stimulation Conference*. Vancouver, Canada.

9. Sreenivasan V, Grover S, Sridharan D (2017). Structural connectivity correlates of behavioural asymmetries in attention measured with diffusion MRI tractography. *4th Annual Conference on Cognitive Science*. Hyderabad, India.
10. Grover S, Gurusamy G, Purokayastha S, Ramesh RG, Javali M, Rao NP, Sridharan D (2017). Behavioral indices for quantifying attention deficits in Alzheimer's disease. *Alzheimer's & Dementia: The Journal of the Alzheimer's Association*. 13(7): P1480-P1481. London, United Kingdom.
11. Grover S, Deshpande A, Ravindran T, Krishnan JN. (2017). Design and development of microfluidic platform for water analysis. *TechConnect World Innovation Conference and Expo (NanoTech-2017)*. Washington DC, USA.
12. Sridharan D, Banerjee S, Grover S, Nabeel A, Abhimanyu P, Purokayastha S, Sriram R, Sahoo B, Sreenivasan V (2016). Selective attention: Model-based approaches for identifying network mechanisms. (equal contribution). *The 39th Annual Meeting of the Japan Neuroscience Society*. Tokyo, Japan.
13. Grover S, Banerjee S, Rajagopalan J, Gupta S, Abhimanyu P, Sridharan D (2015). Investigating the role of rhythmic stimulation of the pre-frontal and parietal cortex in selective attention. *International Conference on Neurodegenerative Diseases: From Pathogenesis to Therapy*. Bengaluru, India.
14. Grover S, Banerjee S, Rajagopalan J, Gupta S, Abhimanyu P, Sridharan D (2015). Investigating the role of rhythmic stimulation of the pre-frontal and parietal cortex in selective attention. *1st Symposium on Non-Invasive Brain Stimulation in Psychiatry*. Bengaluru, India.

## Patents

1. Krishnan JN, Grover S, Agarwal A, Deshpande A. Continuous flow microfluidic device for rapid heavy metal ion detection in water samples. IN 526,000. Issued: March 14, 2024.

## Teaching Experience

Fall 2017	Teaching Fellow
	PS/NE 333 Drugs and Behavior Boston University

## Research Mentorship

2019 - 2020	Weijia Zhang (Undergraduate student at Boston University)
2019 - 2020	Chenlingxi Xu (Masters student at Boston University)

2019 - 2020	Amanat Bansal (Undergraduate student at Boston University)
2019	Hayato Nakamura (Undergraduate student at Boston University)
2019	Winston Tan (Research volunteer at Boston University)

## Ad-Hoc Reviewing

Attention, Perception & Psychophysics; Biological Psychiatry; Biological Psychology; Current Biology; Journal of Cognitive Neuroscience; Journal of Neuroscience; Molecular Psychiatry; Nature Biotechnology; Nature Medicine; Nature Mental Health; Nature Neuroscience; Neurobiology of Aging; Neurolmage; Neuron; Neuropsychologia; Quarterly Journal of Experimental Psychology; Schizophrenia Research

## Select Media Coverage

08/23/2022	Using electricity, researchers find surprising memory results. <i>Psychology Today</i>
08/22/2022	Brain stimulation leads to long-lasting improvements in memory. <i>Nature</i>
08/22/2022	Electrical brain stimulation improves memory, new study shows. <i>The Wall Street Journal</i>
08/22/2022	Brain stimulation boosts memory for a month. <i>BBC</i>
08/22/2022	Brain stimulation can improve the memory of older people. <i>MIT Technology Review</i>
08/22/2022	Electrical brain stimulation improves memory in elderly, research find. <i>Financial Times of London</i>
08/22/2022	Zap away. <i>Medium</i>
08/22/2022	Electrically zapping specific brain regions can boost memory. <i>The Scientist</i>
08/22/2022	Electricity to the brain helps older people recall words. <i>The Times of London</i>
08/22/2022	Can you improve memory? Brain stimulation could make a moderate to large difference, study shows. <i>USA Today</i>
08/22/2022	Brain stimulation improves memory for at least one month, study suggests. <i>Independent</i>
03/08/2021	Stimulation sensation: The non-invasive technologies shaking up neuroscience. <i>Technology Networks</i>
02/24/2021	A better way to zap our brains. <i>The New York Times</i>

01/19/2021	Electrical brain stimulation may alleviate obsessive-compulsive behaviors. <i>Scientific American</i>
01/19/2021	A promising new therapy against OCD? <i>U.S. News</i>
01/18/2021	Researches show efficacy of personalized brain stimulation in psychiatric treatments. <i>NPR</i>

## References

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