

CURRICULUM VITAE

NOAH S. PHILIP, M.D.

CONTACT INFORMATION

Professor of Psychiatry and Human Behavior, Alpert Medical School of Brown University

Lead for Mental Health Research; Section Chief for Psychiatric Neuromodulation  
Associate Director for Career Development and Clinical Research Partnerships  
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EDUCATION

McGill University, Montreal, Quebec, Canada; B.Sc., Cum Laude, 2001  
Albany Medical College, Albany, NY; M.D., Alpha Omega Alpha & Distinction in Biomedical Ethics, 2005

POSTDOCTORAL TRAINING

General Psychiatry Resident, Department of Psychiatry and Human Behavior, Alpert Medical School of Brown University, 2005-2009  
T32 Research Fellow, Department of Psychiatry and Human Behavior, Alpert Medical School of Brown University, 2009-2011  
Neuromodulation Fellow, Butler Hospital, Department of Psychiatry and Human Behavior, Alpert Medical School of Brown University, 2011-2012

POSTDOCTORAL HONORS, AWARDS AND RECOGNITION

Travel Fellowship, Future Leaders in Psychiatry, Emory University, 2006  
Research Day Award, Brown Dept. of Psychiatry and Human Behavior, 2007  
Research Day Award, Brown Dept. of Psychiatry and Human Behavior, 2008  
Travel Fellowship/Clinical Trial Workshop, American Society of Clinical Psychopharmacology, 2008  
Research Colloquium for Young Investigators, American Psychiatric Association, 2008  
Travel Fellowship, Society of Biological Psychiatry, 2009  
Resident Research Award, American Psychiatric Association/Eli Lilly, 2009  
Young Investigator Award, NCDEU, 2009  
Trainee Advisory Board, Acta Psychiatrica Scandinavica, 2009  
Ruth L. Kirschstein National Research Service Award (T32), 2009  
Research Colloquium for Young Investigators, American Psychiatric Association, 2010  
Research Day Award, Brown Dept. of Psychiatry and Human Behavior, 2011  
Top Poster, Society for Biological Psychiatry, 2011  
Career Development Institute for Psychiatry, NIMH/University of Pittsburgh/Stanford University, 2013  
Top Poster Award, APA Resident Competition (Mentees: Jessica Warner MD/Kalya Vardi MD), 2013  
Psychiatry Research Mentor Award, Brown Dept. of Psychiatry and Human Behavior, 2013  
Fellow, American Psychiatric Association, 2014  
Karen T. Romer Undergraduate Teaching and Research Award, Brown University, 2014  
Top Abstract, Conference on Resting State/Brain Connectivity, 2014  
Invited Core Faculty, Career Development Institute for Psychiatry (R25 MH090947), 2016

Awardee, Alan Alda Center for Communicating Science Workshop, Experimental Program to Stimulate Competitive Research, National Science Foundation, 2016  
Travel Award (Senior Applicant Category), American College of Neuropsychopharmacology, 2016  
Effective Scientific Communication to a Non-Scientific Audience, National Neuroscience Curriculum Initiative & Society for Biological Psychiatry, 2017  
Teaching Award, Brown Dept. of Psychiatry and Human Behavior, 2017  
Associate Member (peer election), American College of Neuropsychopharmacology, 2017  
Master of Arts, *ad eundem*, Brown University, 2018  
Distinguished Fellow, American Psychiatric Association, 2020  
Research Teaching and Mentoring Award, Brown Dept. of Psychiatry and Human Behavior, 2020  
Member (peer election), American College of Neuropsychopharmacology, 2021  
George N. Thompson Founder's Award for Distinguished Service, Society of Biological Psychiatry, 2023  
Purple Merit Star (saving a human life through outdoor emergency care), National Ski Patrol, 2023  
Distinguished Investigator Award, Brain Behavior Research Foundation, 2024 (also under grant support)  
Sigma Xi, 2024 (external nomination)

#### PROFESSIONAL LICENSURE AND BOARD CERTIFICATION

BCLS, American Heart Association, continuous renewal (hospital)  
Outdoor Emergency Care, National Ski Patrol, 1997-, Alpine Senior Patroller 2018-  
Allopathic Physician, State of Rhode Island, License # 12589  
Allopathic Physician, State of Vermont License # 042.0011752  
Board Certified in Psychiatry, American Board of Psychiatry and Neurology, 2005, renewed 12/15/2020  
Advanced Certificate in Transcranial Magnetic Stimulation, International Society for ECT and Neurostimulation, 2012

#### ACADEMIC APPOINTMENTS

Assistant Professor of Psychiatry and Human Behavior, Alpert Medical School of Brown University, 2011-2017  
Associate Professor of Psychiatry and Human Behavior, Alpert Medical School of Brown University, 2017-2022  
Professor of Psychiatry and Human Behavior, Alpert Medical School of Brown University, 2022-

#### HOSPITAL APPOINTMENTS

Butler Hospital, Attending Psychiatrist, 2009-2019  
VA Providence Healthcare System, Attending Psychiatrist; Section Chief & Founding Director, Psychiatric Neuromodulation Clinic, 2012-

#### OTHER APPOINTMENTS

Data Safety and Monitoring Board, "Cognitive enhancement through transcranial laser therapy," PI: Haley, NIA R21 AG050898, 2017-2019  
Data Safety and Monitoring Board, "Noninvasive Cortical Stimulation to Improve Memory in Mild Cognitive Impairment," PI: Taylor, NIA R01 AG055526, 2017-2021  
US Dept. of Veterans Affairs, Office of Research and Development, Focal Brain Stimulation Workgroup, 2018-2019  
US Dept. of Veterans Affairs, Office of Research and Development, Working Group to Recruit and Retain Research Psychiatrists, 2018-2019  
Data Safety and Monitoring Board, "tDCS to Decrease Opioid Relapse," MPIs: Abrantes/Stein, NIDA UG3 DA047793, 2019-2024  
Data Safety and Monitoring Board, "Repetitive Transcranial Magnetic Stimulation for Executive Functioning" & Brain Stimulation for Working Memory in Teenagers" PI: Kavanaugh, Thrasher Research Fund and Rhode Island Foundation 2019-2021  
Chair, Data Safety and Monitoring Board, "Development and Human Translation of Temporal Interference Brain Stimulation" PI: Press, NIMH R01 MH117063 2019-2023

Sponsor/Investigator, US Food and Drug Administration, Investigational Device Exemption (IDE) G200146, “Low intensity focused ultrasound: a new paradigm for depression and anxiety” 6/19/2020  
Chair, Data Safety and Monitoring Board, “Effect of TMS on PTSD neuroimaging and psychophysiological biomarkers.” PI: van Rooij; NIMH K01 MH121653; 2020-2025  
VA Clinical TMS National Program leadership group 2020-  
Data Safety and Monitoring Board, “Imaging-guided low intensity focused ultrasound pulsation (LIFUP) neuromodulation of ventral striatum in healthy subjects/OCD subjects.” PI: Goodman; 2022-2025  
Chair, Data Safety and Monitoring Board, “A mechanistic trial of the neurobiology of extinction learning and intraparietal sulcus stimulation.” PI: Brown R01 MH132740; 2024-2029  
Data Safety and Monitoring Board, tDCS to Decrease Opioid Relapse” (MPIs Abrantes & Stein) NIDA UH3 DA047793 2024-2026  
VHA Office of Integrated Care, Clinical Determination Indication: Transcranial Magnetic Stimulation (TMS), Working Group 2023-2024

AD-HOC PEER-REVIEWER (last three years, selected list)

American Journal of Psychiatry, Biological Psychiatry, Biological Psychiatry: CNNI, Biological Psychiatry: GOS; Brain Stimulation, Clinical Neurophysiology, Cortex, Current Biology, eLife, Human Brain Mapping, JAMA Psychiatry, Molecular Psychiatry, Nature Communications, Nature Medicine, Nature Mental Health, Nature Neuroscience, Nature Biotechnology, Neuroscience, Neuromodulation, Neuropsychopharmacology, New England Journal of Medicine, Psychological Medicine, Science Advances, Social Cognitive and Affective Neuroscience, Translational Psychiatry

EDITORIAL BOARDS, NATIONAL SCIENTIFIC COMMITTEES AND GRANT REVIEW

Acta Psychiatrica Scandinavica (Trainee Advisory Editorial Board) 2009-2013  
Alpha Omega Alpha, Grant Review, 2013-2019  
National Institutes of Health, Center for Scientific Review; BMIT-B, 6/2014  
National Institutes of Health, Center for Scientific Review; MDCN-R, 6/2014  
Department of Defense, Peer Reviewed Medical Research Program CTA-4, 12/2015  
Ontario Mental Health Foundation; Ontario, Canada, 12/2015  
National Institutes of Health, Center for Scientific Review; ETTN-L51 I/Start, 10/2016  
Society for Biological Psychiatry, Program Committee, 2014-2017  
US Department of Veterans Affairs, RR&D Career Development Award Review Panel; RRD9, 7/2017  
National Institutes of Health, Center for Scientific Review; ETTN-L51 I/Start, 10/2017  
National Institutes of Health, Center for Scientific Review; ETTN-L51 I/Start, 2/2018  
US Department of Veterans Affairs, RR&D Career Development Award Review Panel; RRD9, 5/2018  
Willy Gepts Research Foundation of the University Hospital Brussels (UZ Brussel), 6/2018  
Associate Editor, Frontiers in Psychiatry, Neuroimaging and Stimulation, 11/2018-2023  
National Institutes of Health, Center for Scientific Review; ZMH1 ERB-D (R61/33 R/U01), 2/2019  
Israeli Ministry of Science and Technology, Proposals on Scientific & Technological Cooperation, 3/2019  
Carney Institute of Brain Science, Innovation Award review panel, 9/2019  
National Institutes of Health, Center for Scientific Review; ZMH1 ERB-D (R61/33 R/U01), 10/2019  
PSI Foundation; Ontario, Canada, 12/2019  
US Department of Veterans Affairs, CSR&D Scientific Review; NURA, 12/2019  
US Department of Veterans Affairs, RR&D Scientific Review Panel; RRD4, 2/2020  
International OCD Foundation, 5/2020  
US Department of Veterans Affairs, CSR&D Scientific Review; NURA  
Study section, standing member 5/2020-5/2024, including Alt Chair  
Center for Medicinal Cannabis Research Grants Program, UCSD, 6/2020  
FWF Austrian Science Fund, Programme Clinical Research (KLIF), Austria; 9/2020  
US Department of Veterans Affairs, RR&D Scientific Review Panel; RRD4, 2/2021  
FWF Austrian Science Fund, Programme Clinical Research (KLIF), Austria; 3/2021  
Dept of Psychiatry Research Review Committee, University of Pittsburgh, 5/2021  
National Institutes of Health, Center for Scientific Review; ZMH1 ERB-B (08) R, 6/2021  
National Institutes of Health, Center for Scientific Review; ZMH1 ERB-B (04) R, 2/2022

Editorial Board, Neuromodulation: Technology at the Neural Interface, 2022-  
Netherlands Organisation for Health Research and Development (ZonMw), 3/2022  
PCORI, Phased Large Awards for Comparative Effectiveness Research; Panel A, 4/2022  
Editorial Board, Biological Psychiatry: Cognitive Neuroscience and Neuroimaging; 2022-  
Univ. Rochester Del Monte Research Project review, 7/2022  
Editorial Board, Journal of Affective Disorders and Journal of Affective Disorders Reports; 2022-  
Sapienza University of Rome Project Review, 10/2022  
National Institutes of Health, Center for Scientific Review; ZMH1 ERB-B (01) S; 10/2022  
Focused Ultrasound Foundation Research Award Program Review 12/2022  
CDMRP Traumatic Brain Injury and Psychological Health Research Program, Study Section Chair, 2/2023  
Focused Ultrasound Foundation Research Award Program Review 4/2023  
CDMRP Traumatic Brain Injury and Psychological Health Research Program, Study Section Chair, 9/2023  
Netherlands Organisation for Health Research and Development (ZonMw), 10/2023  
NSF CAREER and DARE programs, 11/2023  
European Research Council, grant review, 1/2024  
Editorial Board, Scientific Reports, 2023-2024  
Focused Ultrasound Foundation Research Award Program Review 2/2024  
Swiss National Science Foundation review, 3/2024  
Einstein Stiftung Berlin (Einstein Foundation, Germany), 4/2024  
National Institutes of Health, Center for Scientific Review, ZMH1 ERB-S (06) S; Co-Chair, 6/2024  
Editorial Board, Transcranial Magnetic Stimulation, 2024-  
Focused Ultrasound Foundation Research Award Program Review 10/2024  
National Institutes of Health, Center for Scientific Review, ZMH1-ERB-P (02) (T32 Panel) 11/2024  
Editorial Board (Associate Editor), American Journal of Psychiatry, 2025-  
Editorial Board, Neuropsychopharmacology, 2025-  
O'Donnell Brain Institute Human Neuroscience Collaborative Research Program, external review, 1/2025  
Editorial Board, Brain Stimulation, 2025-  
Advance CTR Pilot Award grant review, 2/2025  
National Institutes of Health, Center for Scientific Review, 2025/05 ZMH1 ERB-P (04) S (K99 panel) 4/2025  
Guest Editor, NPJ acoustics - Ultrasonics in the Brain

#### UNIVERSITY AND HOSPITAL COMMITTEES

Butler Hospital, Staff Association, 2009-2019  
Butler Hospital, Pharmacy and Therapeutics Committee, 2009-2017, Chair, 2013-2017  
Butler Hospital, IRB Alternate, 2010-2019  
Brown University, MRI Research Facility, Safety, Education and Training Committee, 2013-  
Providence VA Medical Center, IRB Alternate, 2013-2018  
Lead, Mental Health Research, Center for Neurorestoration and Neurotechnology, 2018-  
Associate Director for Career Development & Clinical Research Partnerships, 2025-  
Co-director, Neuromodulation & Neuroimaging Core, COBRE Center for Neuromodulation, 2019-2025  
Academic Faculty Appointments, Reappointments & Promotions Committee, Department of Psychiatry and  
Human Behavior, Alpert Medical School of Brown University 2022-  
Leadership committee, Clinical Neuroimaging Research Core, Dept of Psychiatry and Human Behavior, Alpert  
Medical School of Brown University 2023-  
Executive Committee, Carney Institute for Brain Sciences, 2024-

#### MEMBERSHIP IN SOCIETIES

Alpha Omega Alpha, 2005  
American Psychiatric Association, 2005-, Fellow 2012-2019, Distinguished Fellow 2019  
Rhode Island Psychiatric Society, 2005-  
American Society of Clinical Psychopharmacology, 2008-2017  
Society for Biological Psychiatry, Member, 2009-  
Education Taskforce 2011-13, Mentor 2013- , Program Committee 2015-2017; 2023-2024;  
Education Committee 2018-2021; Education Committee Co-Chair 2019-2020; ACTION Group 2020;

Education Committee Chair 2020-2021; Program Committee Chair 2022-2023; Honorifics Committee 2024-2027  
 International Society of ECT and Neuromodulation 2012-2015  
 Psychiatric Research Society, Associate Member 2015-2017, Member 2017-; Program Committee 2021-  
 President 2020-2021  
 American College of Neuropsychopharmacology, Associate Member 2018-2020; Member 2021-  
 Meeting Mentor 2021-, Education & Training Committee (*ad hoc*) 2018, Strategic Planning Task Force  
 2019 Education & Training Committee 2019-2021, Education Integration Workgroup 2020; Mentor  
 2022-; Membership Committee 2022-2024, Career Development Committee 2025-2027  
 International Transcranial Ultrasonic Stimulation Safety and Standards, 2022-

#### PEER REVIEWED PUBLICATIONS

1. **Philip NS**, Green DM. Recovery and enhancement of faded cleared and stained specimens. *Biotechnic and Histochemistry* 2000;75(4):193-196 doi: 10.3109/10520290009066500. PMID: 10999570
2. Guimond MF, **Philip NS**, Sheikh U. Health concerns of peacekeeping: A survey of the current situation. *Journal of Humanitarian Assistance* 2001
3. Watkins D, Ru M, Hwang HY, Kim CD, Murray A, **Philip NS**, Kim W, Legakis H, Wai T, Hilton JF, Ge B, Dore C, Hosack A, Wilson A, Gravel RA, Shane B, Hudson TJ, Rosenberg DS. Hyperhomocysteinemia due to methionine synthase deficiency CblG: structure of the MTR gene, genotype diversity and recognition of a common mutation P1173L. *American Journal of Human Genetics* Jul;71(1):143-53. doi: 10.1086/341354. Epub 2002 May 30. PMID: 12068375
4. **Philip NS**, Mello K, Carpenter LL, Tyrka AR, Price LH. Patterns of quetiapine use in psychiatric inpatients: an examination of off-label use. *Ann Clin Psychiatry*. 2008 Jan-Mar;20(1):15-20. doi: 10.1080/10401230701866870. PMID: 18297582
5. **Philip NS**, Carpenter LL, Tyrka AR, Price LH. Augmentation of antidepressants with atypical antipsychotics: a review of the current literature. *J Psychiatr Pract*. 2008 Jan;14(1):34-44. doi: 10.1097/01.pra.0000308493.93003.92. PMID: 18212601
6. Christopher PP and **Philip NS**. Finding medications for the uninsured: pitfalls of prescribing samples. *American Journal of Psychiatry, Residents Journal*, 2008 3:6
7. **Philip NS**, Carpenter LL, Tyrka AR and Price LH. Using atypical antipsychotics to augment treatment of unipolar, nonpsychotic major depression: an evidence-based review. *Directions in Psychiatry* 2008;24: 51-9
8. **Philip NS**, Carpenter LLC, Tyrka AR, Whitely L, Price LH. Varenicline augmentation in depressed smokers: an 8-week, open-label study. *Journal of Clinical Psychiatry* 2009 70(7):1026-32 doi: 10.4088/jcp.08mo04441. Epub 2009 Mar 24. PMID: 19323966
9. **Philip NS**, Schaffer S, Banik DR, Johnson B, Boland R. Supportive psychotherapy – a crash course for medical students. *Academic Psychiatry* 2010;34(1):57-60 doi: 10.1176/appi.ap.34.1.57. PMID: 20071730
10. **Philip NS**, Carpenter LL, Tyrka AR and Price LH. Pharmacologic Approaches to Treatment Resistant Depression: A Re-examination for the Modern Era. *Expert Opin Pharmacotherapy* 2010;11(5):709-22 doi: 10.1517/14656561003614781. PMID: 20151847
11. **Philip NS**, Carpenter LL, Tyrka AR and Price LH. Nicotinic Acetylcholine Receptors and Depression: A Review of the Preclinical and Clinical Literature. *Psychopharmacology (Berl)*. 2010 Sep;212(1):1-12. doi: 10.1007/s00213-010-1932-6. Epub 2010 Jul 8. PMID: 20614106
12. **Philip NS**, Carpenter LL, Tyrka AR, Price LH. The Nicotinic Acetylcholine Receptor as a Target for Antidepressant Drug Development. *ScientificWorldJournal*. 2012;2012:104105. doi: 10.1100/2012/104105. Epub 2012 Apr 24. PMID: 22619570
13. **Philip NS**, Sweet LH, Bloom RF, Tyrka AR, Price LH and Carpenter LL. Decreased Default Network Connectivity is Associated with Early Life Stress in Medication-Free Healthy Adults. *European Neuropsychopharmacology* 2013 Jan;23(1):24-32. doi: 10.1016/j.euroneuro.2012.10.008. Epub 2012 Nov 8. PMID: 23141153
14. **Philip NS**, Sweet LH, Tyrka AR, Price LH, Carpenter LL, Kuras YI, Clark US, Niaura RS. Early Life Stress is Associated with Greater Default Network Deactivation During Working Memory in Healthy Controls: A Preliminary Report. *Brain Imaging and Behavior* 2013;7(2):204-12 doi: 10.1007/s11682-012-9216-x. PMID: 23269472

15. **Philip NS**. An Aripiprazole Discontinuation Syndrome. *Rhode Island Med Journal* 2013; 96(2):13-4 PMID: 24933746
16. Tyrka AR, Burgers DE, **Philip NS**, Price LH and Carpenter LL. Neurobiological correlates of childhood adversity and implications for treatment. *Acta Psychiatrica Scandinavica* 2013 Dec;128(6):434-47 doi: 10.1111/acps.12143. Epub 2013 May 10. PMID: 23662634
17. **Philip NS**, Kuras Y, Valentine TR, Sweet LH, Tyrka AR, Price LH and Carpenter LL. Regional homogeneity and resting state functional connectivity: associations with exposure to early life stress. *Psychiatry Research: Neuroimaging* 2013 Dec 30;214(3):247-53 doi:10.1016/j.psychresns.2013.07.013. Epub 2013 Oct 3. PMID: 2409051
18. **Philip NS**, Carpenter SL. (2013) Repetitive transcranial magnetic stimulation induced hypomanic symptoms in a woman with a history of electroconvulsive therapy induced mania: a case report *F1000Research* 2013, 2:284 doi: 10.12688/f1000research.2-284.v1. eCollection 2013. PMID: 24715970
19. Warner J, and **Philip NS**. Augmentation Strategies in MDD Therapy. *Psychiatric Times*, September 10<sup>th</sup>, 2013
20. **Philip NS**, Valentine TR, Sweet LH, Tyrka AR, Price LH, and Carpenter LL. Early life stress impacts dorsolateral prefrontal cortex functional connectivity in healthy adults: informing future studies of antidepressant treatments. *Journal of Psychiatric Research* 2014 May;52:63-9 doi: 10.1016/j.jpsychires.2014.01.014. Epub 2014 Jan 29. PMID: 24513500
21. **Philip NS**, Carpenter SL, Carpenter LL. Safe use of repetitive transcranial magnetic stimulation in patients with implanted vagus nerve stimulators. *Brain Stimulation* 2014 Jul-Aug;7(4):608-12 doi: 10.1016/j.brs.2014.04.001. Epub 2014 Apr 12. PMID: 24794163
22. **Philip NS**, Sweet LH, Carpenter SL. Developing Neuroimaging Phenotypes of the Default Mode Network in PTSD: Integrating the Resting State, Working Memory, and Structural Connectivity. *Journal of Visualized Experiments* 2014 Jul 1;(89) doi: 10.3791/51651. PMID: 25046537
23. Vardi K, Warner J, and **Philip NS**. Effects of Antidepressant Use and Anxiety on Psychiatric Rehospitalization in Bipolar Depression. *Annals of Clinical Psychiatry* 2014; 26(3): 207-216 PMID: 25166483
24. Tyrka AR, Carpenter LL, Kao HT, Porton B, **Philip NS**, Ridout SJ, Ridout KK, Price LH. Association of Telomere Length and Mitochondrial DNA Copy Number in a Community Sample of Healthy Adults. *Experimental Gerontology* 2015 66:17-20 doi: 10.1016/j.exger.2015.04.002. Epub 2015 Apr 3. PMID: 25845980
25. Ridout SJ, Ridout KK, Kao HT, Carpenter LL, **Philip NS**, Tyrka AR, Price LH. Telomeres, early-life stress, and mental illness. *Advances in Psychosomatic Medicine* 2015;34:92-108 doi: 10.1159/000369088. Epub 2015 Mar 30. PMID: 25832516
26. Tyrka AR, Parade SH, Eslinger NM, Seifer R, Marsit CJ, Lesseur C, Armstrong DA, **Philip NS**, Josefson B. Methylation of Exons 1D, 1F, and 1H of the Glucocorticoid Receptor Gene Promoter and Exposure to Adversity in Pre-School Aged Children. *Development and Psychopathology* 2015 27(2):577-85 doi: 10.1017/S0954579415000176. PMID: 25997773
27. Leuchter, A, Cook IA, Feifel D, Goethe JW, Husain M, Carpenter LL, Thase ME, Krystal AD, **Philip NS**, Bhati MY, Burke WJ, Howland RH, Sheline YI, Aaronson ST, Iosifescu DV, O'Reardon JP, Gilmer WS, Jain R, Burgoyne KS, Phillips B, Jin Y, Manberg P, Massaro J, Lisanby SH, and George MS. Efficacy and Safety of Low-field Synchronized Transcranial Magnetic Stimulation (sTMS) for Treatment of Major Depression. *Brain Stimulation* 2015 Jul-Aug;8(4):787-94 doi: 10.1016/j.brs.2015.05.005. Epub 2015 May 22. PMID: 26143022
28. **Philip NS**, Carpenter SL, Ridout SJ, Sanchez G, Albright SE, Tyrka AR, Price LH, Carpenter LL. 5 Hz repetitive transcranial magnetic stimulation to left prefrontal cortex for major depression. *Journal of Affective Disorders* 2015 Nov 1;186:13-7 doi: 10.1016/j.jad.2014.12.024. Epub 2015 Jul 17. PMID: 26210705
29. **Philip NS**, Sweet LH, Tyrka AR, Carpenter SL, Albright SE, Price LH and Carpenter LL. Exposure to childhood trauma is associated with altered N-Back activation and performance in healthy adults: implications for a commonly used working memory task. *Brain Imaging and Behavior* 2016 Mar;10(1):124-35 doi: 10.1007/s11682-015-9373-9. PMID: 25804310
30. Tyrka AR, Price LH, Parade SH, Kao HT, Porton B, **Philip NS**, Welch E, Carpenter LL. Alterations of Mitochondrial DNA Copy Number and Telomere Length with Early Adversity. *Biological Psychiatry* 2016 Jan 15;79(2):78-86 doi: 10.1016/j.biopsych.2014.12.025. Epub 2015 Jan 15. PMID: 25749099

31. **Philip NS**, Dunner DL, Dowd SM, Aaronson ST, Brock DG, Carpenter LL, Demitrack MA, Hovav S, Janicak PG, and George MS. Can Medication Free, Treatment-Resistant, Depressed Patients Who Initially Respond to TMS Be Maintained Off Medications? A Prospective, 12-Month Multisite Randomized Pilot Study. *Brain Stimulation* 2016 Mar-Apr;9(2):251-7. doi: 10.1016/j.brs.2015.11.007. Epub 2015 Nov 25.; erratum in: *Brain Stimul.* doi: 10.1016/j.brs.2016.03.015. Epub 2016 Mar 29.
32. **Philip NS**, Ridout SJ, Albright SE, Sanchez G, Carpenter LL. 5 Hz transcranial magnetic stimulation for the treatment of comorbid posttraumatic stress disorder and major depression. *Journal of Traumatic Stress*. 2016 Feb;29(1):93-6. doi: 10.1002/jts.22065. Epub 2016 Jan 7. PMID: 26748883
33. Tyrka AR, Parade SH, Welch ES, Ridout KR, Price HL, Marsit C, **Philip NS**, Carpenter LL. Methylation of the Leukocyte Glucocorticoid Receptor Gene Promoter in Adults: Associations with Early Adversity and Depressive, Anxiety, and Substance-Use Disorders. *Translational Psychiatry* 2016 Jul 5;6(7):e848. doi: 10.1038/tp.2016.112. PMID: 27378548
34. **Philip NS**, Carpenter SL, Sweet LH, Tyrka AR, Almeida G, Price LH and Carpenter LL. Early Life Stress Predicts Thalamic Hyperconnectivity: a Transdiagnostic Study of Global Connectivity. *Journal of Psychiatric Research* 2016 Aug;79:93-100. Epub 2016 May 13 doi: 10.1016/j.jpsychires.2016.05.003. Epub 2016 May 13. PMID: 27214526
35. Ionescu DF, McAdams CJ, O'Donovan A, **Philip NS**. Becoming an Academic Researcher in Psychiatry: A View from the Trenches. *Academic Psychiatry* 2017 Apr;41(2):293-296 doi: 10.1007/s40596-016-0514-2. Epub 2016 Mar 16. PMID: 26983418 doi: 10.1002/brb3.681. eCollection 2017 May. PMID: 28523223
36. van 't Wout-Frank M, Longo SM, Reddy MK, **Philip NS**, Bowker MT, Greenberg BD. Transcranial direct current stimulation may modulate extinction memory in Veterans with posttraumatic stress disorder. *Brain and Behavior* 2017 Apr 11;7(5):e00681
37. Clark U, Sweet LH, Morgello S, **Philip NS**, Cohen RA. High Early Life Stress and Aberrant Amygdala Activity: Risk Factors for Elevated Neuropsychiatric Symptoms In HIV+ Adults. *Brain Imaging and Behavior* 2017 Jun;11(3):649-665 doi: 10.1007/s11682-016-9542-5. PMID: 27011015
38. **Philip NS**, Nelson B, Frohlich F, Lim K, Widge A, and Carpenter LL. Low-Intensity Transcranial Current Stimulation in Psychiatry. *American Journal of Psychiatry* 2017 Jul 1;174(7):628-639. doi: 10.1176/appi.ajp.2017.16090996. Epub 2017 Feb 24. PMID: 28231716
39. Conelea CA, **Philip NS**, Yip AG, Barnes JL, Niedzwiecki MJ, Greenberg BD, Tyrka, AR, & Carpenter LL. Transcranial magnetic stimulation for treatment-resistant depression: Naturalistic treatment outcomes for younger versus older patients. *Journal of Affective Disorders*. 2017 Aug 1;217:42-47 doi: 10.1016/j.jad.2017.03.063. Epub 2017 Mar 29. PMID: 28388464
40. Ridout SJ, Spofford CM, van 't Wout M, **Philip NS**, Unger WS, Carpenter LL, Tyrka AR, Shea TM. Heart rate variability responses to a standardized virtual reality exposure in Veterans with PTSD. *Current Treatment Options in Psychiatry* 2017 doi: 10.1007/s40501-017-0118-9
41. Lechner W, Gunn R, Minto A, **Philip NS**, Brown RA, Uebelacker LA, Price LH, Abrantes AM. Effects of Negative Affect, Urge to Smoke, and Working Memory Performance (n-back) on Nicotine Dependence. *Substance use & misuse* 2018; 53(7):1177-1183 doi: 10.1080/10826084.2017.1400569. Epub 2017 Nov 29. PMID: 29185837
42. Conelea CA, **Philip NS**, Yip AG, Barnes JL, Niedzwiecki MJ, Greenberg BD, Tyrka, AR, & Carpenter LL. Response to Letter to the Editor regarding "Transcranial magnetic stimulation for treatment-resistant depression: Naturalistic outcomes for younger versus older patients." *Journal of Affective Disorders* 2018 Jan 1;225:773-774 doi: 10.1016/j.jad.2017.08.033. Epub 2017 Aug 12. PMID: 28826888
43. **Philip NS**, Barredo J, Frank M, Tyrka AR, Price LH and Carpenter LL. Network Mechanisms of Clinical Response to Transcranial Magnetic Stimulation in Posttraumatic Stress Disorder and Major Depressive Disorder. *Biological Psychiatry* 2018 Feb 1;83(3):263-272 doi: 10.1016/j.biopsych.2017.07.021. Epub 2017 Aug 8. PMID: 28886760
  - i. Accompanying commentary: Mahmood MZ & Milad MR, "Symptom Changes in Posttraumatic Stress Disorder and Major Depressive Disorder After Transcranial Magnetic Stimulation: Mechanisms of Where and How in the Brain"
44. **Philip NS**, Barredo J, Aiken E, Carpenter LL. Neuroimaging mechanisms of therapeutic repetitive transcranial magnetic stimulation for major depression. *Biological Psychiatry: Cognitive Neurosciences and Neuroimaging*. 2018 Mar;3(3):211-222. doi: 10.1016/j.bpsc.2017.10.007. Epub 2017 Nov 11. PMID: 29486862

- i. Accompanying commentary: Holtzheimer PE, “Defining Mechanisms of Transcranial Magnetic Stimulation as a Treatment for Depression Through Neuroimaging: Progress and Challenges”
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#### ABSTRACTS



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  48. Levandowski, M., Ridout, KK, Ridout SJ, Gantz L, Goonan K, Palermo D, Price LH, **Philip NS**, Tyrka, AR. Meta-Analysis of Early Life Stress and Telomere Length. *Brown University Mind Brain Research Day*, 2016
  49. Yip AG, Conelea C, Barnes J, Niedzwiecki M, **Philip NS**, Greenberg BD, Tyrka AR, Carpenter L. Transcranial magnetic stimulation (TMS) for depression in older versus younger patients with treatment-resistant depression (TRD): a case series. *International Society for ECT and Neurostimulation*, Atlanta, GA 2016
  50. **Philip NS**, Barredo J, Albright S, Frank M, Ridout S, Ridout KL, Almeida J, Tyrka AR, Price LH and Carpenter LL. Repetitive Transcranial Magnetic Stimulation Corrects Network Pathology in Patients with Comorbid Posttraumatic Stress Disorder and Major Depressive Disorder. *Society for Biological Psychiatry*, 2016
  51. Ridout KK, Parade S, Carpenter LL, Price LH, **Philip NS**, Kao H-T, Porton B, Tyrka, AR. Associations Between Neuroendocrine Function and Mitochondrial DNA Copy Number in a Sample of Healthy Adults. *Society of Biological Psychiatry* 2016
  52. van 't Wout M, Longo SM, Reddy MK, **Philip NS**, Bowker MT, Greenberg BD. Transcranial Direct Current Stimulation During Extinction Consolidation Enhances Extinction Recall in Veterans With Posttraumatic Stress Disorder. *Society for Biological Psychiatry*, 2016
  53. Ridout SJ, **Philip NS**, Tyrka AR, Niedzwiecki M, Greenberg B, Barnes J, Price LH, Carpenter LL. Effects of Transcranial Magnetic Stimulation Therapy on Heart Rate Variability in Depression. *Society*

- for Biological Psychiatry, 2016
54. **Philip NS**, Barredo J, v 'ant Wout M, Almeida JR, Tyrka AR, Price LH, Carpenter LL. Network Mechanisms of 5Hz Repetitive Transcranial Magnetic Stimulation in Patients with Comorbid Posttraumatic Stress and Major Depressive Disorders. American College of Neuropsychopharmacology 2016
  55. van 't Wout M, Reddy MK, **Philip NS**, Greenberg DB. Augmenting Safety Learning and Memory with transcranial Direct Current Stimulation: Effects of Stimulation Timing on Extinction and Recall. Neuromodec NYC 2017
  56. Aiken E, Dunlap C, Barredo J, van 't Wout-Frank M, Tyrka AR, Price LH, Carpenter LL and **Philip NS**. Mechanisms of 5hz transcranial magnetic stimulation in patients with posttraumatic stress disorder and major depressive disorder. Brown University Mind Brain Research Day, 2017
  57. Bellone J, Edwards M, Correia S, Barredo J, Carpenter LL, **Philip NS**. The association between white matter coherence and PTSD before and after repetitive transcranial magnetic stimulation. Brown University Mind Brain Research Day, 2017
  58. Phillips K, Tyrka AR, **Philip NS**, Vargas SE. Brown's NIMH-funded R25 grant to support psychiatry resident research training: overview and 2016-2017 update. Brown University Mind Brain Research Day, 2017
  59. Zandvakili A, **Philip NS**, Greenberg BD, Carpenter LL. EEG signal after 5-hz transcranial magnetic stimulation in Patients with comorbid posttraumatic stress disorder and Major depression. Brown University Mind Brain Research Day, 2017
  60. Barredo J, Carpenter LL, van 't Wout-Frank M, Aiken E, Dunlap C, Greenberg BD, **Philip NS**. The influence of early life stress and PTSD on functional network organization: a novel application of convergence analysis. Brown University Mind Brain Research Day, 2017
  61. Bennett E, RC de Almeida J, **Philip NS**, Tyrka AR, Niedziwicki M, Greenberg BD, Price LH, Carpenter LL. Do risk factors for bipolar disorder impact outcomes following transcranial magnetic stimulation therapy for depression? Brown University Mind Brain Research Day, 2017
  62. Larson V, van 't Wout-Frank M, **Philip NS**, Greenberg BD. Transcranial direct current stimulation augmentation of virtual reality exposure for PTSD: preliminary results. Brown University Mind Brain Research Day, 2017
  63. Welch E, Press D, Weigand A, Tyrka AR, **Philip NS**, Carpenter LL. Feasibility and tolerability of computerized cognitive behavioral therapy combined with bifrontal transcranial direct current stimulation for treatment of major depression. Brown University Mind Brain Research Day, 2017
  64. Dunlap C, Aiken E, Tirrell BA, Conelea C, Price LH, Tyrka AR, Carpenter LL, **Philip NS**. 5 Hz repetitive transcranial magnetic stimulation for posttraumatic stress disorder comorbid with major depressive disorder. Brown University Mind Brain Research Day, 2017
  65. **Philip NS**, Conelea CA, Yip AG, Barnes JL, Niedzwiecki MJ, Greenberg BD, Tyrka AR, and Carpenter LL. 5 Hz Repetitive Transcranial Magnetic Stimulation for Posttraumatic Stress Disorder Comorbid with Major Depressive Disorder. Society for Biological Psychiatry, 2017
  66. Barredo J, Carpenter LL, van 't Wout-Frank M, Aiken E, Dunlap C, Greenberg BD, and **Philip NS**. Early Life Stress and PTSD Impacts Functional Network Organization: A Novel Application of Convergence Analysis. Late-Breaking Abstracts, Society for Biological Psychiatry, 2017
  67. Zandvakili A, **Philip NS**, Carpenter LL, Greenberg BG. EEG Signal after 5-Hz Transcranial Magnetic Stimulation in Patients with Comorbid Posttraumatic Stress Disorder and Major Depression. Society for Biological Psychiatry, 2017
  68. van 't Wout Frank M, Reddy M, Greenberg BG, **Philip NS**. Combining Transcranial Direct Current Stimulation with Virtual Reality Exposure for PTSD. Society for Biological Psychiatry, 2017
  69. Ridout SR, Spofford C, Unger W, **Philip NS**, Shea MT. Heart Rate Variability Responses to a Standardized Virtual Reality Exposure in Veterans with PTSD. Society for Biological Psychiatry, 2017
  70. **Philip NS**, Barredo J, Aiken E, v 'ant Wout M, Greenberg BD, Carpenter LL. Therapeutic Transcranial Magnetic Stimulation Improves Cortical Information Flow in Posttraumatic Stress Disorder. American College of Neuropsychopharmacology 2017
  71. Blackman RK, **Philip NS**, and Badre D. Disruption in Working Memory Gating Observed in Schizophrenia. Presented at the 6th Biennial Schizophrenia International Research Society Conference, Florence, Italy, April 4-8, 2018.

72. Edwards M, Bellone JA, Correia S, Barredo J, Carpenter LL, and **Philip NS**. White matter integrity before and after repetitive transcranial magnetic stimulation in individuals with comorbid PTSD and depression. 2018 meeting of the International Neuropsychological Society Conference
73. Barredo J, Aiken E, Carpenter LL, Greenberg BD, and **Philip NS**. Interactions between Cognitive Control and Decision-Making Networks: A Potential Biomarker of Suicidality. Society for Biological Psychiatry, 2018
74. Novick AM, Werchan DM, Amso D, Parade SH, Ackerman L, Gunther K, Seifer R, **Philip NS**, Amso D, and Tyrka AR. Cognitive and Affective Function in School- Aged Children Experiencing Trauma and Adversity. Annual Meeting of the Society of Biological Psychiatry, 2018
75. Greenberg BG, McLaughlin N, Barredo J, Blanchette B, Rasmussen SR, **Philip NS**, Carpenter LL. Effects of Cathodal tDCS Over Pre-SMA on Brain Functional Connectivity in OCD. Society for Biological Psychiatry, 2018
76. Berlow YA, Grizansio KA, Fleming S, Rashed Ahmed AP, Aiken E, Carpenter LL, and **Philip NS**. Symptom Profile Subtypes Predict Treatment Response to 5 Hz rTMS in MDD and Co-Morbid PTSD. American College of Neuropsychopharmacology, 2018.
77. **Philip NS**, Barredo J, Aiken EA, Larson V, Jones RN, Shea MT, Greenberg BD, and van 't Wout-Frank M. Theta Burst Stimulation for Posttraumatic Stress Disorder. American College of Neuropsychopharmacology, 2018
78. Kudinova AK, MacPherson HA, Schettini E, Gilbert AC, Jenkins GA, Musella K, **Philip NS**, Clark LA, and Dickstein DP. Personality Traits and the Course of Bipolar Disorder Symptoms among Young adults: Cross Sectional and Prospective Approaches. Society of Biological Psychiatry, 2019
79. Berlow YA, Zandvakili A, Carpenter LL, and **Philip NS**. Transcranial Direct Current Stimulation for Depression and Risk of Treatment Emergent Mania: An Updated Meta-Analysis. Society of Biological Psychiatry, 2019
80. Yuan S, Zandvakili A, Temereanca I, Leuchter AF, Tirrell E, **Philip NS**, and Carpenter LL. Baseline EEG Theta Cordance States and rTMS Treatment Outcomes in Individuals with Post-Traumatic Stress Disorder and Comorbid Major Depressive Disorder. Society of Biological Psychiatry, 2019
81. van 't Wout M, Aiken EM, Larson VL, Shea MT, Greenberg BD, and **Philip NS**. Theta burst stimulation-modulated anger in Veterans with PTSD. Society of Biological Psychiatry, 2019
82. Yuan S, Zandvakili A, Temereanca S, Leuchter AF, Tirrell E, **Philip NS**, Carpenter LL. Transcranial Magnetic Stimulation in Major Depressive Disorder: EEG Theta Cordance Change and Treatment Response. 2019 Neuromodulation: The Science and NYC Neuromodulation Joint Meeting.
83. Petrosino NJ, van't Wout-Frank M, Aiken E, Swearingen HR, Barredo J, Zandvakili A, **Philip NS**. One-Year Clinical Outcomes Following Theta Burst Stimulation for PTSD. American College of Neuropsychopharmacology, 2019
84. McLaughlin N, Barredo J, Blanchette B, Carpenter L, **Philip NS**, Phillips ML, Haber S, Rasmussen SR, Greenberg BD. Cathodal Transcranial Direct Current Stimulation Targeting the Pre-Supplementary Motor Area on Resting State Functional Connectivity in OCD. American College of Neuropsychopharmacology, 2019
85. **Philip NS**, Aiken EA, Kelley ME, Burch W, Waterman W, Holtzheimer PE. Synchronized transcranial magnetic stimulation for posttraumatic stress disorder and comorbid major depression. American College of Neuropsychopharmacology, 2019
86. Berlow YA, Zandvakili A, **Philip NS**. The Clinical Utility of Imaging-Defined Biotypes of Depression and Transcranial Magnetic Stimulation: A Decision Curve Analysis. American College of Neuropsychopharmacology, 2019
87. van 't Wout-Frank M, Faucher C, Garnaat SL, **Philip NS**, Burwell R. Learning not to avoid: effects of transcranial direct current stimulation on reversal learning. American College of Neuropsychopharmacology, 2019
88. Barredo J, Swearingen HR, Greenberg BD, **Philip NS**. Neuroimaging of transcranial magnetic stimulation for suicidality. American College of Neuropsychopharmacology, 2019
89. Cosma C, DiBiasi M, Vania L, Grecco LC, Muszkat M, **Philip NS**, Pondé de Sena A systematic review of transcranial direct current stimulation effects in attention-deficit/hyperactivity disorder. Society of Biological Psychiatry 2020

90. Aiken, E, Petrosino NJ, van't Wout-Frank M, Swearingen H, Barredo J, Zandvakili A, **Philip NS**. One-year clinical outcomes following intermittent theta burst stimulation for posttraumatic stress disorder. Society of Biological Psychiatry 2020 (selected for oral presentation; Impacted by COVID19)
91. **Philip NS**, Madore MR, Kozel FA. Transcranial Magnetic Stimulation in US Military Veterans - A Naturalistic Study in the Veterans Health Administration. American College of Neuropsychopharmacology, 2020
92. Berlow YA, Zandvakili Z, **Philip NS**. Low Frequency Right Sided and High Frequency Left Sided Repetitive Transcranial Magnetic Stimulation for Depression: The Evidence of Equivalence. American College of Neuropsychopharmacology, 2020
93. Cosmo CA, Aiken EA, van 't Wout-Frank M, **Philip NS**. Autonomic Features in Posttraumatic Stress Disorder: "Les Prophéties" for Theta-Burst Stimulation Response? American College of Neuropsychopharmacology, 2020
94. van 't Wout-Frank M, Harle A, Sorenson DO, **Philip NS**. Towards Individualized Transcranial Direct Current Stimulation for Clinical Trials on Posttraumatic Stress Disorder. American College of Neuropsychopharmacology, 2020
95. Berlow YA, Zandvakili A, Price LH, **Philip NS**. Modeling Treatment Response to Transcranial Magnetic Stimulation Using an Exponential Decay Function. Society for Biological Psychiatry 2021
96. Brigido S, Bozzay M, Aiken E, van 't Wout-Frank M, and **Philip NS**. Safe Use of Intermittent Theta Burst Stimulation in Veterans with Alcohol Use Disorder. Society for Biological Psychiatry 2021
97. Cosmo C, Aiken E, van 't Wout-Frank M, and **Philip NS**. Ultra-Short HRV Features as Predictors of Intermittent Theta-Burst Stimulation Response in Posttraumatic Stress Disorder. Society of Biological Psychiatry 2021 (oral presentation)
98. Morris AT, Ibanescu ST, Zandvakili A, Tyrka AR, Greenberg BD, Carpenter LL, **Philip NS**, and Jones SR. Transient neural oscillations reveal new biomarkers for therapeutic transcranial magnetic stimulation for MDD and PTSD. Society for Neuroscience 2021
99. Morris AT, Ibanescu ST, Zandvakili A, Tyrka AR, Greenberg BD, Carpenter LL, **Philip NS**, and Jones SR. Transient neural oscillations reveal new biomarkers for therapeutic transcranial magnetic stimulation for comorbid MDD and PTSD. Brain Stimulation 2021
100. Cosmo C, Zandvakili A, and **Philip NS**. EEG Power Spectral Analysis: a Potential Mechanistic Strategy to Assess rTMS Neurophysiological Effects. American College of Neuropsychopharmacology 2021
101. Berlow YA, Zandvakili A, Price and **Philip NS**. Predicting Treatment Response to Transcranial Magnetic Stimulation Using an Exponential Decay Function. American College of Neuropsychopharmacology 2021
102. Cosmo C, Zandvakili A, and **Philip NS**. Serial EEG May Provide Novel Insights into Neural Mechanisms underlying Therapeutic Transcranial Magnetic Stimulation. American Psychiatric Association 2022
103. van 't Wout-Frank and **Philip NS**. Stimulating the Ventromedial Prefrontal Cortex in the Context of Virtual Reality Exposure for PTSD: Examining the Role of Emotional Arousal and Electrical Field Distributions. Society of Biological Psychiatry 2022
104. Arulpragasam AR, Faucher CF, Aiken EA, van 't Wout-Frank M, Mernoff ST, Correia C, Van Patten R, Greenberg BD, and **Philip NS**. First-in-Human Use of Low Intensity Focused Ultrasound in Depressed Patients: Safety and Tolerability. Society of Biological Psychiatry 2022
105. Petrosino N, **Philip NS**, Zandvakili A. Multidimensional scaling: A Novel Data-Driven Technique to Define Functional Connectivity in Posttraumatic Stress Disorder. Society of Biological Psychiatry 2022
106. Morris AT, Ibanescu ST, Zandvakili A, Tyrka AR, Greenberg BD, Carpenter LL, **Philip NS**, and Jones SR. Transient neural oscillations reveal new biomarkers for therapeutic transcranial magnetic stimulation for comorbid MDD and PTSD. Society of Biological Psychiatry 2022
107. Arulpragasam AR, Faucher CF, Aiken EA, van 't Wout-Frank M, Mernoff ST, Correia C, Van Patten R, Greenberg BD, and **Philip NS**. Cerebral Blood Flow Changes in Amygdala Following Low Intensity Focused Ultrasound in Depressed Patients. Society of Biological Psychiatry 2022
108. McLaughlin N, Barredo J, Carpenter LL, Sherman A, Blanchette B, Erickson C, **Philip NS**, Phillips M, Haber S, Rasmussen S, Greenberg BD. Targeting Presupplementary Motor Area in OCD With tDCS and Continuous Theta Burst TMS. Society of Biological Psychiatry 2022 (oral presentation)
109. Ramanathan D, Madore M, Kozel FA, **Philip NS**. Does Traumatic Brain Injury Attenuate Response to Therapeutic Transcranial Magnetic Stimulation? An Opportunity for Further Inquiry. Society of Biological Psychiatry 2022

110. Karim H, Mayeli A, Donati F, Coffman B, Blumberger D, **Philip NS**, Phillips M, Andreescu Ca, Price R, Ferrarelli F. TMS Doses Based on Motor Threshold Differ Between DLPFC, OFC, and Motor Cortex: A Case for Electric Field Dosimetry in Clinical Studies. Society of Biological Psychiatry 2022
111. Radoeva P, Milev V, Hunt JI, Deoni SCL, Sheinkopf SJ, Mazefsky CA, **Philip NS**, Dickstein DP. Systematic Review: White Matter Microstructural Organization in Adolescents with Depression. American Academy of Child and Adolescent Psychiatry and Canadian Academy of Child and Adolescent Psychiatry Annual Meeting 2022
111. Arulpragasam AR, Faucher CF, Aiken EA, van 't Wout-Frank M, Mernoff ST, Correia C, Van Patten R, Greenberg BD, and **Philip NS**. Early Experience from First-in-Human Use of Low Intensity Focused Ultrasound in Depressed Patients. International Society of Therapeutic Ultrasound, 2022 (selected for oral presentation).
112. Rehman SS, Zuchslag ZD, Norred M, Walker CN, **Philip NS**, Kozel FA, & Madore MR. Effectiveness of rTMS for Sleep Problems in Veterans with Major Depression. Annual Convention of the American Psychological Association, 2022.
113. **Philip NS**, Senda M, Berlow YA, Kozel FA, Gee S, Madore M. Does Protocol Matter for PTSD? A Multisite Analysis of Veterans Receiving Therapeutic Transcranial Magnetic Stimulation. American College of Neuropsychopharmacology 2022
114. Cosmo C, Zandvakili A, Philip NS. Acute rTMS Effects on EEG-Based Functional Cortical Networks. American College of Neuropsychopharmacology 2022.
115. Siddiqi S, **Philip NS**, Palm S, Bouchard H, Barredo J, Grafman K, Morey R, Fox. Lesion Network Localization of Neuromodulation Targets for PTSD in Veterans. American College of Neuropsychopharmacology 2022 (also selected for Hot Topics)
116. Rehman SS, Zuschlag ZD, Norred M, Chin L, Walker NC, **Philip NS**, Kozel FA, & Madore MR. Sleep Onset Latency and Duration in rTMS Treatment in Veterans with Treatment-Resistant Major Depressive Disorder. Annual Convention of the International Neuropsychological Society 2023 .
117. Walker NC, Ramirez N, Chin L, Rehman SS, Gee S, Hodges K, Williams L, Hickson R, Green LC, Patton T, Gamboa B, Al-Dasouqi H, **Philip NS**, Kozel FA, Yesavage J, & Madore MR. Treatment with TMS Improves Aspects of Attention in Depression: A Pilot Study. Annual Convention of the International Neuropsychological Society 2023
118. Berlow YA, Brennan MC, Senda M, Kozel FA, Gee S, Madore MA, **Philip NS**. Early symptom improvement as a predictor of TMS success for PTSD. Society of Biological Psychiatry 2023.
119. Cosmo C, Zandvakili A, Toutain T, Vivas Miranda JG, **Philip NS**. Effects of repetitive TMS on functional cortical networks and serial EEG. Society of Biological Psychiatry 2023
120. Berlow YA, Williams L, Price LH, **Philip NS**. Exponential Decay: A Generalized Nonlinear Model of Antidepressant Response. American College of Neuropsychopharmacology 2023
121. Arulpragasam AR, Barredo J, **Philip NS**, van 't wout-Frank. Synergistic Transcranial Direct Current Stimulation and Virtual Reality for PTSD Modulates Ventromedial Prefrontal Cortex-Basolateral Amygdala Functional Connectivity. American College of Neuropsychopharmacology 2023
122. Tsuchiyagaito A, Kuplicki R, Smith R, Misaki M, **Philip NS**, Paulus MP, Guinjoan SM. Low-Intensity Focused Ultrasound of White Matter Tracts in the Anterior Limb of the Internal Capsule Decreases Connectivity Between Thalamus and Orbitofrontal/Subgenual Cortices in Participants with Major Depression. American College of Neuropsychopharmacology 2023
120. Brettler KC, Cilli SL, Arulpragasam AR, Berlow YA, **Philip NS**. Transcranial Magnetic Stimulation Reduces Suicidal Ideation Among US Veterans. Suicide Research Symposium, Virtual conference, 2024
121. van 't Wout-Frank, **Philip NS**, Carpenter LL, Greenberg BD. When Stimulating the brain, Timing matters: Effects of tDCS Applied during versus following Extinction Learning in PTSD. Society of Biological Psychiatry 2024
122. Kozel FA, Yesavage JA, Neri E, Noda A, Hernandez B, **Philip NS**, Madore M. Preliminary Analysis Investigating Impact of Anticonvulsants/Benzodiazepines Medications on Clinical Outcome of Transcranial Magnetic Stimulation Treatment in the VA Clinical TMS Program. Clinical TMS Society Annual Meeting, London, UK. 14 June 2024.
123. **Philip NS**, Brettler KC, Greenberg BD, Arulpragasam AR, Cilli SL, Aiken EM, van 't Wout-Frank M. One Year Outcomes From a Randomized Controlled Trial of Transcranial Direct Current Stimulation and Virtual Reality for PTSD. American College of Neuropsychopharmacology 2024
124. van 't Wout-Frank M, Sorensen DO, Parra L, Huang Y, Harle A, Greenberg BD, Arulpragasam AR, **Philip NS**. Strength of tDCS-induced electrical field is associated with psychophysiological habituation

- and predicts symptom reduction in response to tDCS+virtual reality exposure for PTSD. American College of Neuropsychopharmacology 2024
125. Berlow YA, Prentice A, Mansouri F, Middleton VJ, Bowman J, Kriske J, Donachie N, **Philip NS**, and Downar J. Exponential Decay of Depression and Anxiety Symptoms with Bilateral TMS Targeting Dorsolateral Prefrontal Cortex and Orbitofrontal Cortex. American College of Neuropsychopharmacology, 2024
  126. Bystritsky A, Spivak NM, Swenson AJ, Haron JM, Monti MM, Bookheimer S, Caulfield K, Kuhn T, Badran B, Stern J, Schafer SE, George MS, Dougherty D, **Philip NS**, Schafer ME, Brain Stimulation, 2025
  126. Senda MC, Madore MR, Johnson KA, Spitz AM, **Philip NS**, Kozel FA. Preliminary Analysis of TMS Treatment Outcomes for Veteran Sexual Assault Victims with MDD and PTSD. Clinical TMS Society, 2025, also presented at APA 2025
  127. Huynh KY, **Philip NS**, Kozel, FA., & Madore, MR. PTSD Subtypes Predicting rTMS Outcomes for Veterans with Comorbid PTSD and Treatment Resistant Depression. American Academy of Clinical Neuropsychology, 2025

#### INVITED & OTHER PRESENTATIONS

1. “Augmentation options for treatment-resistant depression.” Butler Hospital Staff Association, Continuing Medical Education, December 2010 (Local)
2. “Early life stress and the default network.” Center for Neuroimaging, Dept. of Psychiatry and Human Behavior, April 2011 (Local)
3. “Depression screening for the primary care provider.” Coastal Medical Group, Continuing Medical Education, September 2011. (Regional)
4. “Neuromodulation for Residents.” Adult Psychiatry Residency, Alpert Medical School of Brown University, October 2012 (Local)
5. “Clinical Implications of Frequency Dependent Neuromodulation.” Cognitive Rhythms Collaborative, Brown/BU/Harvard/MIT/NSF, April 2014 (Regional/National)
6. “DSM5 Major Depression and Bipolar Disorder: An Update.” Providence VA Medical Center, Continuing Medical Education, May 2014 (Local/Regional)
7. “Clinical Neuromodulation: State of the Art.” Mental Health Colloquium, Providence VA Medical Center, Continuing Medical Education, June 2014 (Local/Regional)
8. “Transcranial Magnetic Stimulation in Psychiatry.” Rhode Island Neurological Society, September 2014 (Regional)
9. “Psychiatric Neuromodulation: From Faraday to Frequency.” Grand Rounds, University of Massachusetts Medical School, March 2015 (National)
10. Symposium Chair, “Psychiatric Neuromodulation: Bridging Mechanisms to Therapeutics.” Annual Meeting Symposium, Society for Biological Psychiatry, Toronto, ON, Canada, May 2015 (National/International)
11. “Non-invasive psychiatric Neuromodulation” National Neuroscience Curriculum Initiative <https://vimeo.com/148255811>
12. “5 Hz rTMS Therapy to Left Prefrontal Cortex for MDD Patients Unable to Tolerate Standard 10 Hz Protocol.” Society of Biological Psychiatry, Toronto, ON, Canada, May 2015 (National/International)
13. “Can Medication Free, Treatment-Resistant, Depressed Patients Who Initially Respond to TMS Be Maintained Off Medications? A Prospective, 12-Month Multisite Randomized Pilot Study.” Psychiatric Research Society, Park City, UT, February 2016 (National/International)
14. “Life after the CDI.” Career Development Institute for Psychiatry, Pittsburgh, PA, April 2016 (National)
15. “Negotiation with NIH, Mentors and Department Chairs.” Career Development Institute for Psychiatry, Pittsburgh, PA, April 2016 (National)
16. “Emerging Treatments for Depression.” Mental Health Colloquium, Providence VA Medical Center, April 2016 (Local/Regional)
17. “Early Life Trauma is Associated with Disruptions in Multiple Intrinsic Neural Networks: A Transdiagnostic Resting State Connectivity Study.” Society for Biological Psychiatry, Atlanta, GA, May 2016 (National/International)



18. "Clinical and Translational Funding." Early Career Investigator Program. Society for Biological Psychiatry, Atlanta, GA, May 2016 (National/International)
19. Symposium Chair, Oral Session, "Brain Stimulation and Other Topics" Society for Biological Psychiatry, Atlanta, GA, May 2016 (National/International)
20. "5Hz for PTSD and Major Depression" NeuroStar TMS Therapy Research Initiatives, Clinical TMS Society, Atlanta, GA, May 2016 (National/International)
21. "Neural Network Pathology and PTSD" VA Career Development Capstone Program, Washington DC, July 2016 (National)
22. "Non-Invasive Brain Stimulation and How to Use it in Your Research" Webinar, Career Development Institute for Psychiatry, Univ. of Pittsburgh/Stanford, January 2017 (National)
23. "Network Mechanisms of Clinical Response to TMS in Posttraumatic Stress and Major Depressive Disorders" Psychiatric Research Society, Park City, UT, February 2017 (National/International)
24. "Mechanisms of Response to Transcranial Magnetic Stimulation in Posttraumatic Stress Disorder and Major Depression" 2<sup>nd</sup> International Brain Stimulation Conference, Barcelona, Spain, March 2017 (International)
25. "Maintenance Transcranial Magnetic Stimulation for Major Depression" 2<sup>nd</sup> International Brain Stimulation Conference, Barcelona, Spain, March 2017 (International)
26. "PTSD: Trauma to Treatment" Brain Week RI ([www.brainweekri.org](http://www.brainweekri.org)), March 2017 (Local/Regional)
27. "Life after the CDI" Career Development Institute for Psychiatry, Univ. of Pittsburgh/Stanford, Palo Alto, April 2017 (National)
28. "Building your lab" Career Development Institute for Psychiatry, Univ. of Pittsburgh/Stanford, Palo Alto, April 2017 (National)
29. Symposium Chair, "Network Medicine: Target Identification and Engagement," Society for Biological Psychiatry, San Diego, CA, May 2017 (National/International)
30. "Network Mechanisms of Clinical Response to TMS in Comorbid Posttraumatic Stress and Major Depressive Disorders" Society for Biological Psychiatry, San Diego, CA, May 2017 (National/International)
31. "Current reality" in "This 'stuff' is really cool," NNCI/Society for Biological Psychiatry, San Diego, CA, May 2017 (National/International)
32. "Clinical and Translational Funding" Early Career Investigator Program, Society for Biological Psychiatry, San Diego, CA, May 2017 (National/International)
33. "Clinical outcomes for 5 Hz Repetitive Transcranial Magnetic Stimulation for Posttraumatic Stress Disorder Comorbid with Major Depressive Disorder." NeuroStar TMS Therapy Research Initiatives, Clinical TMS Society, San Diego, CA, May 2017 (National/International)
34. "Current Reality" Cutting Edge Neuroscience, Cutting Edge Communication. Yale University, July 2017 (National); <https://nncionline.org/course/dr-noah-philip-current-reality/>
35. "Depression and Cognition" in Cognitive Remediation Video Series, U.S. Dept. of Veterans Affairs, August 2017 (National)
36. "Posttraumatic stress disorder" Neuronetics Scientific Advisory Board (unpaid), September 2017 (National)
37. "Low Intensity Brain Stimulation: Can It Treat Illness and Enhance Learning?" Annual Review of Psychiatry and Psychopharmacology, University of California, Los Angeles, 11/2017 (National)
38. "Imaging mechanisms of therapeutic TMS for Major Depression" UCLA Neuromodulation Research Group, November 2017 (National)
39. "Network Mechanisms of TMS for PTSD and Major Depression" Grand Rounds, University of California, Los Angeles, November 2017 (National)
40. Speaker, "Psychiatry, Neuroscience, and You: The Story of the Future." BRAIN conference, American Association of Directors of Psychiatric Residency Training, New Orleans, February 2018 (National)
41. "Life is not linear" Career Development Institute for Psychiatry, Univ. of Pittsburgh/Stanford, Pittsburgh, April 2018 (National)
42. "Building your lab" Career Development Institute for Psychiatry, Univ. of Pittsburgh/Stanford, Pittsburgh, April 2018 (National)
43. "Closed loop tDCS for PTSD," and Group Facilitator, Cognitive Training Institute Roundtable Discussion on Treating Executive Dysfunction University of Minnesota, May 2018 (National)
44. "Current Reality" in "Recent Advances in Neuroscience: This 'Stuff' is Really Cool" American Psychiatric Association Annual Meeting, NYC, 2018 (National/International)

45. "Funding (Non-NIH)" Early Career Investigator Program, Society for Biological Psychiatry, New York, NY, May 2018 (National/International)
46. Moderator, "Federal Funding Panel" Society for Biological Psychiatry, New York, NY, May 2018 (National/International)
47. "From Clinic to Circuit: 5Hz TMS for Posttraumatic Stress Disorder and Major Depression" Clinical TMS Society Annual Meeting, NYC, May 2018 (National/International)
48. "Imaging Mechanisms in TMS: Synthesis and Future Directions" Carolina Neurostimulation Conference, UNC Chapel Hill, May 2018 (National/International)
49. "How I learned to stop worrying and love the placebo effect" Cutting Edge Neuroscience, Cutting Edge Communication. Yale University, July 2018 (National); <https://nncionline.org/course/placebo-effect-dr-noah-philip/>
50. "Transcranial magnetic stimulation for PTSD," Office of Research and Development, Washington DC, September 2018 (National)
51. "Neurostimulation 2018" Elsevier Psychiatric Clinics Webinar, October 2018 (National/International)
52. "Non-Invasive Brain Stimulation for PTSD," Grand Rounds, UCSF Neuroscape/Sandler Center, December 2018 (National)
53. Symposium Chair, "Theta Burst Stimulation: The Future is Now," 3rd International Brain Stimulation Conference, Vancouver, Canada, February 2019 (International)
54. "Theta Burst TMS for PTSD," 3rd International Brain Stimulation Conference, Vancouver, Canada, February 2019 (International)
55. "Theta Burst Transcranial Magnetic Stimulation for Chronic PTSD" Psychiatric Research Society, Park City Utah, March 2019 (National/International)
56. Career Development Institute for Psychiatry 2019; presentations include "Building your lab," and mock NIH study section. Career Development Institute for Psychiatry, Univ. of Pittsburgh/Stanford (National)
57. Symposium Chair, "Transdiagnostic Theta Burst Stimulation," Society of Biological Psychiatry, May 2019 (National/International)
58. "Theta Burst Transcranial Magnetic Stimulation for PTSD – Clinical Outcomes and Neuroimaging Predictors" Society of Biological Psychiatry May 2019 (National/International)
59. "Funding (Non-NIH)" Panel leader, Early Career Investigator Program, Society for Biological Psychiatry, May 2019 (National/International)
60. "How I learned to stop worrying and love the placebo effect" Society for Biological Psychiatry, May 2019 (National/International)
61. Chair, Federal Funding Panel, Society for Biological Psychiatry, May 2019 (National/International)
62. "Individualized and novel approaches to brain stimulation for posttraumatic stress disorder," Satellite Meeting to the International Neuromodulation Society Congress, Sydney, Australia, May 2019 (International)
63. "Combined transcranial direct current stimulation and virtual reality for PTSD" ORD Research on the Hill; VA Office of Research and Development/US Congress, Washington DC June 2019 (National)
64. "Future of VA Mental Health Patient Care, Research and Education" Minneapolis VA Grand Rounds, August 2019 (National)
65. "Non-invasive brain stimulation for posttraumatic stress disorder" Dept. of Psychiatry and Human Behavior, Alpert Medical School, September 2019 (National/International)
66. "Noninvasive brain stimulation for PTSD" Dept. of Psychiatry, Dell Medical School, University of Texas Austin, Oct 2019 (National/International)
67. "Theta burst TMS in clinical care" VA Transcranial Magnetic Stimulation, January 2020 (National)
68. "The future is now: non-invasive brain stimulation for posttraumatic stress disorder" Perspectives on trauma series, Harvard Medical School/McLean Hospital, January 2020 (National/International)
69. "Theta Burst and Beyond: Non-Invasive Brain Stimulation for PTSD" Clinical TMS Society Grand Rounds, March 2020 (National/International)
70. Chair, "Non-Invasive Brain Stimulation - Treatments and Tools" Psychiatric Research Society, March 2020 (National/International)
71. "Mechanisms Underlying Reduced Suicidality During Transcranial Magnetic Stimulation" Psychiatric Research Society, Park City Utah, March 2020 (National/International)
72. "Transcranial magnetic stimulation for PTSD and Suicidality – New Insights into Clinical Mechanisms" Society of Biological Psychiatry 2020 (National/International) (cancelled due to COVID19)

73. Chair, “Federal Funding Panel” Society for Biological Psychiatry, May 2020 (National/International) (cancelled due to COVID19)
74. “Leveraging Learning - Using Non-Invasive Brain Stimulation for Posttraumatic Stress Disorder” Cognitive Remediation in Psychiatry, NYC, June 2020 (National; cancelled due to COVID19)
75. “Using non-invasive brain stimulation for PTSD” CfNN COVID19 Virtual Seminar Series, Providence RI, April 2020 (Local)
76. “Transcranial Magnetic Stimulation for Posttraumatic Stress Disorder” International Society for Stress Studies, November 2020 (National/International)
77. “Innovative Treatment and Approaches for Post-Traumatic Stress” Waterfire Salute to Veterans & Overwatch Project, FacebookLive, November 2020 (Regional/National)
78. Co-Chair, “Career-Life Balance in the time of COVID” – American College of Neuropsychopharmacology, December 2020
79. “Beyond Depression: Use of TMS for Other Neuropsychiatric Illnesses” North American Neuromodulation Society (NANS) January 2021 (National/International)
80. “Non-invasive brain stimulation for posttraumatic stress disorder” VA Boston Mental Health Grand Rounds Feb 2021 (National)
81. “Transcranial Magnetic Stimulation in US Military Veterans” Anxiety and Depression Association of America, March 2021 (National/International)
82. Chair, Presidential Plenary on Brain Stimulation and Neuroimaging, Psychiatric Research Society, March 2021 (National/International)
83. “The future is now: Non-invasive brain stimulation for posttraumatic stress disorder” UCSD Interventional Psychiatry Workgroup, April 2021 (National)
84. “Career Path after the CDI: It’s not Linear” – Presentations also include “Ask the Expert” and Mock NIH Grant review sessions. Career Development Institute of Psychiatry, Univ. of Pittsburgh/Stanford, April 2021 (National)
85. “Transcranial magnetic stimulation for depression, PTSD and suicide reduction” International Society of ECT and Neurostimulation, April 2021 (National/International)
86. “Transcranial Magnetic Stimulation in Veterans - Real World Efficacy and the Foundation for Mechanistic Insights” Society of Biological Psychiatry May 2021 (National/International)
87. Chair, Federal Funding Panel. Society of Biological Psychiatry May 2021 (National/International)
88. Chair, Early Career Investigator Roundtables. Society of Biological Psychiatry May 2021 (National/International)
89. Speaker, 3<sup>rd</sup> year/Travel Awardee Programming, “transitioning to leadership” Society of Biological Psychiatry May 2021 (National/International)
90. TMS Trainer, VA Clinical TMS Program, Palo Alto VA June 2021 (National)
91. “Transcranial Magnetic Stimulation at the VA” Providence VA Healthcare System, Mental Health Colloquium, June 2021 (Local/regional)
92. “State of the Science: non-invasive brain stimulation for PTSD” Center for Neuroscience and Regenerative Medicine, Uniformed Health Services University, June 2021 (National)
93. “The future is now: Treating PTSD with Non-Invasive Brain Stimulation” UMinn Psychiatry Grand Rounds, September 2021 (National/International)
94. “Non-invasive stimulation for PTSD” Center for Neuromodulation in Depression and Stress, Oct 2021 (National/International)
95. “Novel approaches to non-invasive brain stimulation for posttraumatic stress” Zucker Hillside Hospital Grand Rounds, November 2021 (National/International)
96. “Balancing Research Productivity” Travel Awardee program, American College of Neuropsychopharmacology, December 2021 (National/International)
97. “Theta burst and more for PTSD” Winter Conference on Brain Research, January 2022 (National/International)
98. “Non-Invasive Brain stimulation for Posttraumatic Stress Disorder and Depression” Neuropsychiatry Translational Research Fellowship, March 2022 (Regional/National)
99. Congressional Briefing on Focused Ultrasound Therapy, Focused ultrasound foundation. February 2022 (National)
100. TMS Trainer, VA Clinical TMS Program, Palo Alto VA March 2022 (National)
101. “Life Isn’t Linear” and Mock NIH Study Section, Career Development Institute for Psychiatry, Univ. of Pittsburgh/Stanford 2022 (National)

102. Speaker, 3<sup>rd</sup> year/Travel Awardee Programming, “transitioning to leadership” Society of Biological Psychiatry May 2022 (National/International)
103. “Low Intensity focused ultrasound for depression – early experience from first-in-human use.” Focused Ultrasound Neuromodulation (FUN22)/iTRUSST conference in Mainz (Germany), September 2022 (International)
104. Keynote address, 2022 real-time Functional Imaging and Neurofeedback conference, October 2022 (National/International)
105. Low intensity focused ultrasound for depression - methods for a first-in-human study. 8<sup>th</sup> Annual International Symposium on Focused Ultrasound, October 2022 (National/International)
106. Invited panelist, “Focused Ultrasound and Psychiatric Disorders,” 8<sup>th</sup> Annual International Symposium on Focused Ultrasound, October 2022 (National/International)
107. Invited panelist, “Focused Ultrasound and Why Advocacy?” 8<sup>th</sup> Annual International Symposium on Focused Ultrasound, 2022 (National/International)
108. Non-invasive brain stimulation for PTSD and Depression, Lennox Hospital Grand Rounds, November 2022 (National/International)
109. Low intensity focused ultrasound (LIFU) in neuropsychiatric research - a new technology reaching for the unreachable. VA Somatic Treatment Community of Practice, VISN1 2023 (National)
110. Low Intensity Focused Ultrasound for Depression: Experiences from an Ongoing First-in-Patient Study. Psychiatric Research Society, March 2023 (National/International)
111. Focused Ultrasound in Neuropsychiatric Research. American Neuropsychiatric Association, March 2023 (National/International)
112. Focused ultrasound – reaching for the unreachable. Brain Circuit Therapeutics Training Series, BWH Center for Brain Circuit Therapeutics, August 2023 (National)
113. Domestic Travel Awardee Panel Discussion on Society/Career Leadership, Society of Biological Psychiatry May 2023 (National/International)
114. Neuromodulation for Depression and PTSD. Bench to Bedside Lecture Series, Brown Neuroscience Training Program, May 2023 (Regional)
115. Bringing precision to PTSD and Depression. Cutting-edge advances towards personalized mental health, Stanford Center for Precision Mental Health and Wellness, May 2023 (National)
116. INS Virtual Journal club presenter: Neuromodulation therapies for Post-Traumatic Stress Disorder, July 2023 (International)
117. Invited panelist, “Ultrasound Neuromodulation for Mental Health Applications,” Division of Translational Research, NIMH/NIH, September 2023 (National/International)
118. Invited speaker, “Focused ultrasound: the next frontier in interventional psychiatry?” Brain Stimulation Subspecialty Summit, MGH/Brigham Research Institute, September 2023 (National/International)
119. Keynote presentation, “Pragmatic Precision: Non-invasive Brain Stimulation for PTSD.” Stanford Center for Precision Mental Health and Wellness, October 2023 (National/International)
120. Grand Rounds – Dept of Psychiatry and Dept of Neuroscience, Albany Medical College, December 2023 (National)
121. “Low intensity focused ultrasound – lessons learned from an ongoing first-in-human study” Berenson Allen Center for Non-Invasive Brain Stimulation, December 2023 (National)
122. Keynote address, University of Toledo Research Day, January 2024 (National)
123. Grand rounds, Cooper University Healthcare, February 2024 (National)
124. “Therapeutic Transcranial Magnetic Stimulation – Clinical outcomes from a large, multisite registry study of the VA System.” Psychiatric Research Society, March 2024 (National/International)
125. Grand Rounds, SunCloud Health (National) March 2024 (National)
126. “Low Intensity Focused Ultrasound - Experiences from first-in-human use for depression and anxiety” International Society of Therapeutic Ultrasound, March 2024 (International)
127. US Congressional Briefing, Focused Ultrasound Foundation, April 2024 (National)
128. “Non-invasive brain stimulation for PTSD” Home Base, April 2024 (National)
129. Keynote address, McGill University, Healthy Brains, Healthy Lives Symposium May 2024 (International)
130. “Novel TMS Protocols for Depression,” International Neuromodulation Society World Congress, Vancouver, Canada May 2024 (International)

131. “Potential Mechanisms Supporting Low Intensity Focused Ultrasound for Neuromodulation” International Neuromodulation Society World Congress, Vancouver, Canada May 2024 (International)
132. Session moderator, “Low intensity focused ultrasound” International Neuromodulation Society World Congress, Vancouver, Canada May 2024 (International)
133. Panelist, moderator, & steering committee; FUS PULSE Symposium 2024: Focused ultrasound in Psychiatry. June 2024 (International)
134. “Stimulating for Hope” Grand Rounds, Clinical TMS Society Sep 2024 (National/International)
135. William K Warren Invited lecture, Laureate Institute for Brain Research, Oct 2024 (National)
136. Visiting Professor, WVU/Rockefeller Neurosciences Institute, Oct 2024 (National)
137. Invited speaker, “Focused ultrasound: a year later” Brain Stimulation Subspecialty Summit, MGH/Brigham/Stanford, October 2024 (National/International)
138. Grand Rounds, Icahn School of Medicine at Mt Sinai, Dept of Psychiatry, Oct 2024 (National)
139. “Introduction to Transcranial Magnetic Stimulation,” Unbroken & First Medical Union Hospital, Lviv, Ukraine, November 2024 (International)
140. “Transcranial Magnetic Stimulation for PTSD,” Unbroken & First Medical Union Hospital, Lviv, Ukraine, November 2024 (International)
141. “Recent PTSD Research - Transcranial Magnetic Stimulation and Transcranial Direct Current Stimulation.” Unbroken & First Medical Union Hospital, Lviv, Ukraine, November 2024 (International)
142. Plenary Address, “TMS for PTSD,” Parkwood Institute, Western University, Ontario, Nov 2024 (International)
143. “TMS in a warzone” Center for Neurorestoration and Neurotechnology lecture series, Providence RI, Dec 2024 (Regional/National)
144. Spotlight Session: Providing Transcranial Magnetic Stimulation training to support mental health care in Ukraine's active conflict zones. VA Providence Spotlight Session (Regional)
145. “Low Intensity Focused Ultrasound for Noninvasive Deep Brain Stimulation,” Neurotechnology in Clinical Research, Rhode Island Life Science Hub, Providence RI, Jan 2025 (Regional)
146. Chair, “At the Interface of Research and the Real World: Pragmatic Precision from the Va National Transcranial Magnetic Stimulation Program” American Depression & Anxiety Association, April 2025 (National/International)
147. “What about the protocol? A multisite examination of transcranial magnetic stimulation parameters for posttraumatic stress disorder” American Depression & Anxiety Association, April 2025 (National/International)
148. Panelist, “The Will and the Way: Using Data to Promote Evidence-Based Care across Systems and Populations”, American Depression & Anxiety Association, April 2025 (National/International)
149. Low Intensity Focused Ultrasound, Neuroscience for Primetime Speaker, SOBP Annual meeting, Toronto, Canada, April 2025 (International) (Invited October 2024)
150. Clinical Update Plenary: Low Intensity Focused Ultrasound, ASCP Annual Meeting, May 2025 (National/International) (Invited October 2024)

## CURRENT RESEARCH SUPPORT

1. NIMH, R25 MH101076, “Promoting Research Training During Psychiatry Residency” PI: Tyrka. Role: **Associate Program Director**, 7/1/2020-6/30/2025, \$1,096,060 (total). This R25 supports development of research training during psychiatry residency at the Alpert Medical School of Brown University. My role is to focus on research resident recruitment and mentorship during training.

2. US Dept. of Veterans Affairs, RR&D, I50 RX002864, “Center for Neurorestoration and Neurotechnology” (PI: Hochberg) 6/1/2023-5/20/2028, \$4,500,000 (direct) Role: **Lead, Mental Health Research**. This Focus Area uses noninvasive technologies to understand and change brain circuit function in neurobehavioral disorders that impose health and functional burdens on Veterans. I oversee and direct a diverse series of studies related to PTSD, depression, substance use disorders and suicide; on January 1, 2025, I was promoted to **Associate Director, Training & Research Partnerships**

3. NIMH, R01 MH120126, “Mechanistic circuit markers of transcranial magnetic stimulation outcomes in pharmacoresistant depression.” Role: **Site Principal Investigator** (PI: Williams), 12/1/2019-3/31/2025; \$3,551,455 (total). This multisite study evaluates use of fMRI to characterize response to clinical TMS.
4. VA CSR&D I01 CX002088, “Assessing an electroencephalography (EEG) biomarker of response to transcranial magnetic stimulation for major depression.” Role: **Site Principal Investigator** (PIs: Holtzheimer & Williams); \$5,429,619; 9/30/2019-9/30/2025. This multisite study characterizes EEG signatures of response to clinical TMS delivered at the VA.
5. NIMH, K01 MH122741, “Machine Learning Models for Identifying Neural Predictors of TMS Treatment Response in MDD” PI: Karim. Role: **Mentor**; 1/01/2021 - 12/31/2025. This project develops individual modeling for magnetic dose requirements; I am the TMS mentor.
6. NIMH, U01 MH123427, “Low intensity focused ultrasound: a new paradigm for depression and anxiety.” Role: **Principal Investigator**. \$2,364,204 (total). 6/1/2021-3/31/2025. This study performs first-in-human studies to develop low intensity focused ultrasound as a future treatment for depression and anxiety.
7. VA, CSR&D, IK2 CX002115. “Developing Computational Nosologies of Posttraumatic Stress Disorder.” PI: Zandvakili. Role: **Mentor**; 7/1/2021-6/30/2026. I am the primary mentor on Dr. Zandvakili’s VA career development award.
8. VA, RR&D, IK2 RX004298. “Neuromodulation for impulsivity and suicidality in Veterans with mild traumatic brain injury and common co-occurring mental health conditions” PI: Aaronson Role: **Mentor**; 4/1 2023-3/31/2028. I am a neuroimaging and brain stimulation mentor on this career developmental award.
9. NIMH, K23 MH128466. “Neural Mechanisms of Depressive Symptoms in Youth with Autism Spectrum Disorder.” PI: Radoeva. Role: **Primary Mentor**. 08/18/2022 – 07/31/2027. I am the primary mentor on this NIMH K23.
10. VA, CSR&D IK2 CX002603 “Modeling the Treatment Response of Transcranial Magnetic Stimulation for Depression” PI: Berlow. Role: **Primary Mentor**. 2/1/2024-1/30/2029. This career development award develops generalized statistical models of treatment response during TMS in Veterans with Major Depressive Disorder.
11. VA, RR&D IK2 RX005010. “A Feasibility Study of Home-based Exercise for Older Veterans with Serious Mental Illness.” PI: Brown. Role: **Mentor**. 8/1/2024-7/31/2029. My role is to provide expertise related to psychiatric illness.
12. Brain & Behavior Research Foundation (NARSAD), Distinguished Investigator Award. “Precision Is Personal – Characterizing Individual-Level Mechanisms of Low Intensity Focused Ultrasound.” Role: **Principal Investigator**. 7/1/2024 - 6/30/2025. \$100,000. This project seeks to develop a ground truth to understand individual effects of low intensity focused ultrasound.
13. Accord Family Foundation. “Developing combined non-invasive brain stimulation plus virtual reality for borderline personality disorder.” \$200,000. Role: **Contact Principal Investigator** (MPIs Philip, van’t Wout-Frank & Cosmo). Jan 1, 2025-Dec 30 2027 (tentative). This project seeks to develop integrated brain stimulation and virtual reality as a new treatment for borderline personality disorder.
14. VA, VISN 1 Career Development Award “Characterizing and Enhancing Motivation in Depressed Veterans: A Transcranial Magnetic Stimulation Study” PI: Arulpragasam; Role: **Primary Mentor**. 10/1/2024-9/30/2026. I am the primary mentor on this VA career development award.
15. VA, I01 RX005299 “Low intensity focused ultrasound for posttraumatic stress disorder” Role: **Principal Investigator** (MPI Greenberg). Intent to fund notice received Oct 9, 2024; anticipated dates 10/1/2024-9/30/2028. This study will perform a sham-controlled examination of the use of low intensity focused ultrasound to treat posttraumatic stress disorder.

16. Brain & Behavior Research Foundation (NARSAD), Junior Investigator award. “Low Intensity Transcranial Ultrasound of the Dorsal Anterior Cingulate as a Novel Treatment for Anhedonia in Depression” PI: Arulpragasam. Role: **Mentor**. 7/1/2025-6/30/27 (tentative). This study examines the use of focused ultrasound as a novel treatment for anhedonia.

#### COMPLETED RESEARCH SUPPORT

1. NIMH, T32 MH067553 (PI: Miller), Ruth L. Kirschstein National Research Service Award Institutional Research Training Grant. Role: **Research Fellow**; 7/1/09-6/30/11. This T32 was used to support training in treatment research and neuroimaging methods.

2. Medtronic, Inc. (Site PI: Carpenter) “RECLAIM Deep Brain Stimulation (DBS) Clinical Study for Treatment-Resistant Depression.” Role: **DBS programmer**; 4/16/09-4/15/12. This was a multi-site RCT to study the efficacy of DBS for patients with treatment-resistant depression.

3. Brown University MRI Research Facility, “ELS and the Default Network” Role: Role: **Principal Investigator**; 7/22/10-6/30/11. This study assessed imaging changes in the default network in subjects with childhood trauma.

4. Rhode Island Foundation “The Effects of Child Abuse and the Default Network - Using Functional MRI for a Better Diagnosis” Role: **Principal Investigator**; 2/16/11-12/31/13. This award investigated neuroimaging correlates of child abuse in non-psychiatrically ill adult participants.

5. NeoSync, Inc. (PI: Leuchter) “Evaluation of Low Emission NeoSync EEG Synchronized TMS Technology for the Treatment of Major Depressive Disorder: A Multicenter Randomized, Double-Blind, Sham-Controlled, Trial.” Role: **Co-Investigator** (PI: Carpenter, Butler site); 4/25/11–8/25/13. This multisite RCT investigated the efficacy of synchronized TMS for MDD.

6. Neuronetics, Inc. “A 12-Month Prospective Randomized Dual-Arm Pilot Study of Maintenance Neurostar Transcranial Magnetic Stimulation (TMS) in Patients with Major Depressive Disorder.” Role: **Principal Investigator** (Butler site); 5/1/12-1/12/14. This was a multisite RCT evaluated the efficacy of maintenance TMS treatment for MDD.

7. Brown Institute for Brain Science (PIs: Badre, Carpenter and Sanes) “Research Core Brain Stimulation Facility: Proposal to Establish a New TMS Core Resource” Role: **Co-Investigator**; 11/1/12-10/31/13  
This proposal documented the rationale for, conceptualization of, a detailed plan to create and equip a pair of TMS research laboratories to foster interdisciplinary collaboration at Brown University.

8. Center for Neurorestoration and Neurotechnology (VA RR&D) Role: **Principal Investigator**  
“Acquisition of an MRI-compatible Transcranial Magnetic Stimulation Coil” Role: Co-PI 12/12/12-12/12/13  
This seed funding was used to purchase equipment to integrate MRI and TMS technologies.

9. Cervel Neurotech (Site PI: Carpenter) “A Prospective, Double-Blind, Randomized, Parallel-Group, Sham-Controlled Feasibility Trial of Multi-Coil rTMS for the Treatment of Major Depressive Disorder.” Role: **Co-Investigator** (Butler Site), Site PI: Carpenter; 5/31/13-6/1/15. This multisite RCT investigated a novel multi-coil TMS device for the treatment of MDD.

10. US Dept. of Veterans Affairs, IK2 CX000724, Supplement to “PTSD and the Default Network: Developing Imaging Phenotypes” Role: **Principal Investigator**; 8/3/16. This supplement was awarded to augment research activities and personnel in the parent award.

11. US Dept. of Veterans Affairs, RR&D Center for Neurorestoration and Neurotechnology, N9228-C  
“Comparing Clinically Used TMS Protocols: An Interleaved MRI/TMS Study” Role: **Principal Investigator**; 7/1/13-10/31/16 \$30,000. This pilot grant supported design of interleaved MRI/TMS at Brown University to evaluate imaging correlates of different TMS parameters.

12. Neuronetics, Inc., Investigator Initiated Proposal, “5 Hz Repetitive Transcranial Magnetic Stimulation for Posttraumatic Stress Disorder comorbid with Major Depressive Disorder” Role: **Co-Principal Investigator** (Butler: Carpenter, VA: Philip); 9/2014-10/2016. This two-site study investigated 5Hz rTMS therapy for patients with comorbid PTSD and MDD, combined with pre/post investigations of neuroimaging and EEG.
13. US Dept. of Veterans Affairs, RR&D Center for Neurorestoration and Neurotechnology, N9228-C “Examining the Effect of a 12-Week Aerobic Exercise Program on Hippocampal Volumes, Resting State Functional Connectivity and Emotional Processing among Veterans with PTSD.” Role: **Co-Principal Investigator** (co-PIs: Abrantes, Philip and Shea); 2/15/14-2/14/17 \$30,000. This pilot award evaluated multimodal neuroimaging correlates of an exercise intervention for PTSD.
14. US Dept. of Veterans Affairs, Center for Compassionate Innovation. Role: **Principal Investigator**; 7/1/2017-9/30/2017, \$43,619. This funding was awarded for neuromodulation services for Veterans.
15. US Dept. of Veterans Affairs, RR&D Center for Neurorestoration and Neurotechnology, N9228-C “Transcranial Direct Current Stimulation-Augmentation of Virtual Reality Exposure for PTSD: A Feasibility Pilot Study” Role: **Co-Principal Investigator** (Frank and Philip); 4/1/14-3/30/18 \$24,000. This award explored feasibility and efficacy of virtual reality exposure augmented with tDCS.
16. US Dept. of Veterans Affairs, Shared Equipment Program (PI:Hochberg) “ShEEP request to upgrade the InMotion Upper Extremity Interactive Therapy System.” Role: **Co-Investigator**; 1/1/18-9/30/18. This equipment award supported rehabilitative research at VA Providence/CfNN.
17. US Dept. of Veterans Affairs, CSR&D, IK2 CX000724, “PTSD and the Default Network: Developing Imaging Phenotypes” Role: **Principal Investigator**; 4/1/2013-3/30/2018 \$1,143,454 (direct). This mentored career development award (CDA-2) used multi-modal neuroimaging to investigate changes to the structure and function of the default mode and other brain networks in veterans with PTSD.
18. US Dept. of Veterans Affairs, RR&D, I21 RX002032, “Pilot testing of theta-burst neuromodulation for chronic PTSD” Role: **Principal Investigator**, 4/1/2016-9/30/18, \$198,369 (direct). This award supported the first randomized controlled trial of TBS for veterans with chronic PTSD.
19. US Dept. of Veterans Affairs, RR&D Center for Neurorestoration and Neurotechnology, N2864-C “Synchronized TMS for Posttraumatic Stress Disorder and Comorbid Depressive Symptoms” Role: **Principal Investigator** 8/1/2017-12/30/2018, \$26,110. This was a double blind, sham-controlled pilot clinical trial to evaluate whether synchronized TMS can improve symptoms of PTSD and depression. This was a two-site study with the White River Junction VA.
20. US Dept. of Defense, Air Force, F17B-002-0017 “Closed loop feedback control for transcranial direct current stimulation” Role: **Co-Principal Investigator** (MPIs: Sepe/Philip), 3/1/2018-12/1/2018, \$150,000 (direct). In collaboration with Electro Standards Laboratories (Cranston, RI), this project explored closed loop transcranial direct current stimulation for cognitive enhancement.
21. Rhode Island Commerce Corporation. “Developing closed loop transcranial direct current stimulation for posttraumatic stress disorder” Role **Co-Principal Investigator** (MPIs: Sepe/Philip), 4/1/2018 – 6/30/2019, \$49,875 (direct). In collaboration with Electro Standards Laboratories (Cranston, RI), this project explored closed loop transcranial direct current stimulation for PTSD.
22. US Dept. of Veterans Affairs, BLR&D, IS1 BX004779 “ShEEP Request to Acquire Brainsonix Advanced Focused Ultrasound System.” Role: **Principal Investigator**; 2/5/2019-12/31/2019, \$103,900 (direct) This award funded the purchase of a next generation focused ultrasound device as part of a programmatic effort to develop new treatments for psychiatric disease.
23. NIGMS, U54GM115677, NIH/Advance-CTR, Brown University, “Machine Learning to Predict Clinical Response to Transcranial Magnetic Stimulation: A Resting State Electroencephalography Study” Role:



**Mentor** (PI: Zandvakili) 08/01/18-08/30/20 \$275,022 (direct). I was the primary clinical and TMS mentor on Dr. Zandvakili's career development award.

24. NIDA, R21 DA042989, "Working Memory Training Combined with Repetitive Transcranial Magnetic Stimulation in Smokers" Role: **Co-Principal Investigator** (MPI Lechner/Philip), 7/15/2017-6/30/2021, \$315,162. This project examined whether mental training combined with TMS could improve working memory and resist smoking.

25. Department of Defense, W81XWH-17-1-061915 "Neuroimaging Biomarker for Seizures" Role: **Co-Investigator** (PI: LaFrance), 9/15/2017-9/14/2021, \$3,687,750  
This project evaluated neuroimaging correlates of seizures and nonepileptic seizures; my role was to develop and implement imaging sequences and assist with neuroimaging data analysis.

26. US Dept. of Veterans Affairs, RR&D, IK1 RX003082, "Establishing Relationships and Developing a Therapeutic Target for Impulsivity and Suicidality Among Veterans with Traumatic Brain Injury and Co-Occurring Conditions" Role: **Mentor** (PI: Aaronson) 3/1/2020-2/28/2022. I was the neuromodulation mentor for this CDA1.

27. US Dept. of Veterans Affairs, RR&D, IO1 RX002450 "Combined Transcranial Direct Current Stimulation and Virtual Reality for PTSD" Role: **Principal Investigator**, 4/1/2018-3/30/2023, \$1,567,004 (direct)  
This project tested combined use of tDCS plus virtual reality to understand and treat PTSD and evaluate clinical symptom change, quality of life, and neuroimaging.

28. US Dept. of Veterans Affairs, RR&D, IO1 RX003152. "Targeting Functional Improvement in rTMS Therapy" Role: **Site Principal Investigator** (PI: Rosen), 1/1/2019-12/31/2023, \$1,099,515 (direct)  
This study will use advanced functional connectivity methods to test and optimize coil placement and related targeting for TMS therapy. My role is to prospectively image and treat Veterans with major depression.

29. VA RR&D I21 RX003338, "sTMS for Substance Use-Disordered Veterans" Role: **Co-Investigator** (PI: McGeary); \$199,755; 7/1/2020-12/30/2023. This study evaluated potential use of synchronized TMS in Veterans with substance use disorders.

30. NIGMS, P20 GM130452, "COBRE Center for Neuromodulation" **Role: Neuroimaging & Neuromodulation Core Co-Director; Project Mentor** (PI: Greenberg); 3/1/2019-2/28/2024, \$10,181,994 (total). This center develops brain stimulation treatments for neuropsychiatric illnesses. I co-directed the neuromodulation/imaging core, helping to integrate brain stimulation and neuroimaging. I also served as a mentor to various project and pilot project leaders.

31. US Dept. of Veterans Affairs, HSR&D, IO1 HX002572, "Combined Transcranial Magnetic Stimulation and Brief Cognitive Therapy to Reduce Suicide Behavior in High-Risk Veterans." Role: **Co-Principal Investigator** (MPIs: Primack/Philip), 5/1/2019-4/30/2024, \$1,153,060 (direct). This study tests whether the combination of brief cognitive therapy plus TMS can reduce suicidality in high-risk Veterans.

34. US Dept. of Veterans Affairs, CSR&D, IK2 CX001824, "Identification of Veterans At-Risk for Suicide: A Multidisciplinary Approach" Role: **Mentor** (PI: Barredo) 1/1/19-12/31/24 \$1,019,270 (direct). I served as the primary clinical and imaging mentor on Dr. Barredo's VA CDA2 proposal to develop neuroimaging biomarkers of suicidality.

## TEACHING

Course lecturer/Supervisor, Biomed 510, Core Clerkship in Psychiatry, Alpert Medical School of Brown University 2006-2013

Co-leader, Resident Research Seminar with Katharine Phillips, General Psychiatry Residency, Alpert Medical School of Brown University 2009-2013 (incorporated into R25 MH101076 in 2013)

Course lecturer, Mood Disorders, General Psychiatry Residency, Alpert Medical School of Brown University 2009-2018

Supervisor, Inpatient Psychiatry Unit, General Psychiatry Residency, Alpert Medical School of Brown University, 2009-2012  
Course lecturer IMIS-II Brain Sciences, Alpert Medical School of Brown University, 2013-14  
Director and Developer, Evidence-Based Medicine for PGY1-2s, General Psychiatry Residency, Alpert Medical School of Brown University, 2011-2017  
Individual resident supervisor and course lecturer, PGY1-4, General Psychiatry Residency, Alpert Medical School of Brown University, 2010-  
Supervisor, BIOL 1950/1960 (Undergraduate Directed Research), Brown University, 2010-2013  
Independent study supervisor (Biomed IS-7100), Alpert Medical School of Brown University 2016-2018  
Residency Neuroscience Curriculum, General Psychiatry Residency, Alpert Medical School of Brown University 2014-2020  
Supervisor, Psychiatric Neuromodulation Elective, General Psychiatry Residency, Alpert Medical School of Brown University 2014-  
Guest lecturer on noninvasive stimulation in psychiatry, Brown Univ. School of Engineering, Neuroengineering Course (ENGN 1220) 2016, 2018, 2019, 2020, 2022  
Career Development Awards, NIH T32 Core Seminar Series, Brown University 2017-2024  
VA Providence Training Site Director, General Psychiatry Residency, Alpert Medical School of Brown University, 2019-2023  
PhD Thesis reviewer, University of Toronto (Jack Sheen), Dec 2022  
Masters Thesis reviewer, Drexel University (Samantha Schafer), June 2023  
Training in Transcranial Magnetic Stimulation, Unbroken Hospital, Lviv Ukraine, November 2024