

SARAH HOLLINGSWORTH “HOLLY” LISANBY, MD, DLFAPA  
CURRICULUM VITAE

**Date of Preparation:** 8/13/2024  
**Birthplace:** Bethesda, Maryland  
**Citizenship:** USA

**Summary:** Sarah Hollingsworth “Holly” Lisanby, MD, is internationally known for her pioneering research supporting the FDA approval of novel devices for the treatment of depression, including transcranial magnetic stimulation (TMS). Continuously NIH-funded for over 24 years, Dr. Lisanby’s research translates knowledge of neurocircuitry underlying brain-based disorders into circuit-targeted therapeutics, informed by mechanisms of treatment resistant neuropsychiatric disorders. Dr. Lisanby’s key accomplishments include pioneering magnetic seizure therapy (MST) as a rapidly acting antidepressant, from the stages of device development, preclinical testing, first-in-human trials, and international multi-center trials, all leading up to the pivotal noninferiority trial against gold-standard treatment currently underway to support FDA approval currently underway. Dr. Lisanby was recruited by Dr. Tom Insel to Direct the Division of Translational Research (DTR) at the National Institute of Mental Health (NIMH), where she is responsible for leading a portfolio of research directed towards the discovery of preventions, treatments, and cures for mental illness across the lifespan. She has played a leading role in the NIH BRAIN Initiative, having co-led the NIH BRAIN Initiative Team focused on large-scale neural recording and modulation devices. Prior to being recruited to NIMH, Dr. Lisanby held the JP Gibbons Endowed Professorship with Tenure at Duke University and was the first woman to be selected as Chair of the Duke University Department of Psychiatry and Behavioral Sciences. Dr. Lisanby maintains an active research lab in the NIMH Intramural Research Program, where she founded and directs the NIMH Noninvasive Neuromodulation Unit (NNU), a pioneering clinical translational research lab specializing in the development of innovative brain stimulation tools to measure and modulate neuroplasticity to improve mental health. She founded and directed both the Duke University and the Columbia University Divisions of Brain Stimulation, where she built interdisciplinary research programs specializing in the convergence of Psychiatry, Neuroscience and Engineering. She has been principal investigator on a series of NIH and DARPA funded studies on the development of novel

neuromodulation technologies, including studies on the rational design of magnetic and electrical seizure therapies. A prolific author with over 300 publications, Dr. Lisanby was recognized by the Web of Science as a 2020 recipient of the most highly cited researchers. Dr. Lisanby has received numerous national and international awards, including the Distinguished Investigator Award from the National Alliance for Research on Schizophrenia and Depression (now the Brain Behavior Research Foundation), the Max Hamilton Memorial Prize of the Collegium Internationale Neuro-Psychopharmacologicum (CINP), the Gerald Klerman Award from the National Depression and Manic Depression Association (NDMDA), and the Eva King Killam Research Award from the American College of Neuropsychopharmacology (ACNP). Dr. Lisanby was elected to be a member of the Association of American Physicians, and to be a Fellow of the ACNP. Dr. Lisanby serves on the FDA Neurological Devices Advisory Panel and has held senior leadership positions in professional organizations including serving as President of the International Society for ECT and Neurostimulation and Chair of the APA Task Force to Revise the Practice on Electroconvulsive Therapy (ECT). Dr. Lisanby serves on numerous high level national and international scientific advisory boards including: the Scientific Advisory Board for the Aalto University School of Science, Netherlands; the Scientific Council of the Brain Behavior Research Foundation; the Scientific Advisory Board of the German Center for Brain Stimulation, a research consortium funded by the German Ministry for Education and Research; and the Scientific Advisory Committee of the Burroughs Wellcome Fund (BWF) Career Awards for Medical Scientists (CAMS). A Board-Certified Psychiatrist and Distinguished Life Fellow of the American Psychiatric Association (DLFAPA), Dr. Lisanby received her dual BS in Mathematics and Psychology and her MD at Duke University. She is Professor Emeritus at Duke University Department of Psychiatry and Behavioral Sciences.

## Education

1995 – 1998	Columbia University Postdoc Research Fellowship in Geriatric Psychiatry and Affective Neuroscience Research (T32).
1994 – 1995	Duke University Executive Chief Resident in Psychiatry (PGY4).
1991 – 1995	Duke University, Psychiatry Residency (PGY1-4).
1987 – 1991	M.D. Duke University School of Medicine.

1983 – 1987	B.S. Duke University, dual degree in Mathematics & Psychology, Angier B. Duke Scholarship, Magna Cum Laude, Graduation with Distinction, Dean's List with Distinction, Phi Beta Kappa.
1986	Oxford University, U.K., New College, 20 <sup>th</sup> Century British Literature, Summer Session, Angier B. Duke Memorial Scholarship.

#### Endowed Professorships / Emeritus

2020 – Present	Professor Emeritus, Duke Department of Psychiatry and Behavioral Sciences.
2014 – 2018	J.P. Gibbons Endowed Professor of Psychiatry, Duke University (leave of absence (LOA) from Oct 2015-2018 to accept Directorship of the Division of Translational Research and the Noninvasive Neuromodulation Unit at NIMH.
2012 – 2014	Lawrence C. Katz Professor of Psychiatry, Duke University.

#### University Senior Leadership Positions

2010 – 2015	Department Chair, Duke University Department of Psychiatry and Behavioral Sciences.
2006 – 2010	Division Director and Founder, Columbia University Brain Stimulation and Therapeutic Modulation Division.
2005 – 2006	Division Director and Founder, Columbia University Brain Stimulation and Neuromodulation Division.
2002 – 2010	Head of the Transcranial Magnetic Stimulation (TMS) Unit of the fMRI Research Center, Columbia University.
1998 – 2005	Laboratory Director, Columbia University Magnetic Brain Stimulation Laboratory.

#### NIH Senior Leadership Positions

- 2021 – present Lead Liaison Officer for NIMH-FDA MOU 225-20-016 with FDA Center for Devices and Radiological Health (CDRH) and Center for Drug Evaluation and Research (CDER).
- 2015 – present Director, [Division of Translational Research \(DTR\)](#), NIMH.
- 2015 – present Director and Founder, [Noninvasive Neuromodulation Unit \(NNU\)](#), Experimental Therapeutics and Pathophysiology Branch, Intramural Research Program, NIMH.
- 2015 – 2018 NIH BRAIN Initiative Team B Co-Lead (Large Scale Neural Recording and Modulation).
- 2016 – present Director and Founder, Noninvasive Neuromodulation Service of the Multi-Modal Neuroimaging Center, NIMH.

#### Senior Executive Leadership Training

- 2018 – 2019 NIH Executive Leadership Program – Intensive senior leadership training focused on effective leadership in federal service, operated by the Partnership for Public Service.
- 2015 Harvard Program for Chiefs of Clinical Services – Comprehensive course for Chairs of Departments in Academic Medical Centers.
- 2008 – 2009 Executive Leadership in Academic Medicine (ELAM), Drexel University – two year program to prepare women for leadership in academic medicine.

#### Academic Appointments

- 2020 – Present Professor Emeritus, Duke Department of Psychiatry and Behavioral Sciences.
- 2018 – 2020 Adjunct Professor and former JP Gibbons Endowed Professor and Chair, Duke Department of Psychiatry and Behavioral Sciences.

2011 – 2018	Tenured Full Professor of Psychiatry and Behavioral Sciences, Duke University (LOA from 2015-2018).
2012 – 2018	Duke Center for Neuroengineering faculty.
2011 – 2018	Professor of Psychology and Neuroscience, Duke University.
2011 – 2018	Duke Institute for Brain Sciences (DIBS) Faculty Network Member.
2010 – 2015	Adjunct Professor of Psychiatry, Columbia University.
2007 – 2010	Full Professor of Clinical Psychiatry, Columbia University.
2005 – 2010	Faculty of the Graduate School of Arts and Sciences, Department of Psychology, Columbia University.
2002 – 2007	Associate Professor of Clinical Psychiatry, Columbia University.
1998 – 2002	Assistant Professor of Clinical Psychiatry, Columbia University.
1997 – 2010	Research Psychiatrist II (State Line), New York State Psychiatric Institute.
1995 – 1998	Postdoctoral Clinical Fellow, Columbia University.

#### Board Certification

2016 – present	Re-Certification, American Board of Psychiatry and Neurology (#42523), enrolled in Maintenance of Certification program (MOC).
2006 – 2016	Re-Certification, American Board of Psychiatry and Neurology (#42523).
1998 – 2008	Diplomate, Added Qualifications in Geriatric Psychiatry (#2379).
1996 – 2006	Diplomate, American Board of Psychiatry and Neurology (#42523).

#### NIH Intramural Review Panels

2013 – 2015	NIMH Board of Scientific Counselors (BSC), which reviews the NIMH Intramural Research Program
2016 – present	NINDS Science Review Committee (SRC), which reviews NINDS Intramural Research protocols

2017 – present NIMH/NINDS Technology Assessment Group (TAG), which reviews patent proposals

### NIH Extramural Review Panels

Summary: Participated in 72 NIH Study Section meetings, including 27 IRG meetings, 37 SEP meetings (for NIMH, NINDS, and NIDA), and 8 NIMH Board of Scientific Counselors meetings since 2003.

### Co-Chair / Chair

2014 Co-Chair, ZMH1 ERB-C (09) BRAIN Initiative: Planning Next Generation of Human Brain Imaging. NIMH Special Emphasis Panel

2014 Chair, PAR-13-137: ZRG1 ETTN-L 52R, 2/13/2014 PET and SPECT Imaging Ligands as Biomarkers for Drug Discovery

2013 – 2015 Co-Chair, NOIT Neuroscience and Ophthalmic Imaging Technologies Study Section

### Standing Center for Scientific Review (CSR) Committee Memberships (27 meetings):

2011 – 2015 NOIT, Neuroscience and Ophthalmic Imaging Technologies Study Section, IRG

2010 – 2011 NT, Neurotechnology Study Section, IRG (standing member 2011)

2004 – 2009 NPAS, Neural Basis of Psychopathology, Addictions and Sleep Disorders Study Section, Brain Disorders and Clinical Neuroscience, Integrated Review Group (IRG) (standing member 2006-2009)

### Additional Committee Service:

2015 NINDS SEP ZNS1 SRB-E (06) BRAIN Initiative: RECORDING AND MODULATION IN THE HUMAN CNS. SEP for RFA-NS-15-006, Next Generation Invasive Devices for Recording and Modulation in the Human CNS (UH2/UH3).

2014	ZRG1 ETTN-L (52) PAR13-282: PET and SPECT Imaging Ligands as Biomarkers for Drug Discovery – 2 meetings
2014 – 2015	ZRG1 ETTN-L (53) PAR13-137: Bioengineering Research Grants – 3 meetings
2013	ZRG1 BDCN-W (02) Member Conflict: Dementia, Cognitive Dysfunction, and Stroke
2012	ZRG1 ETTN-L (50) PAR09-218: Innovations in Biomedical Computational Science and Technology
2012	NIMH Extramural Review Branch [ZMH1 ERB-B (09) S] Interventions Conflicts and Eating Disorders 3
2012	ZRG1 ETTN-L (60) Collaborative: R01s For Clinical and Services Studies Of Mental Disorders
2011	ZRG1 BDCN-C (02) Neurodegeneration, Trauma, Immunology and Imaging
2011	ZRG1 ETTN-L (60) Collaborative: R01s for Clinical Studies of Mental Disorders
2011 – 2013	ZRG1 ETTN-L (30) Shared Instrumentation: Grant Program – 3 meetings
2010 – 2011	ZRG1 NT-B (09) Neurotechnology 2 Overflow – 5 meetings
2010	ZRG1 ETTN (Emerging Technologies and Training Neurosciences)-B (85) ARRA: Neurotechnology-4 Competitive Revisions.
2010	ZRG1 BDCN-N (04) Member Conflict: Pharmacology, Plasticity and Mental Disorders II
2010	ZRG1 ETTN-B (30) Shared Instrumentation: Neurotechnology
2009	NIMH Extramural Review Branch [ZMH1 ERB-F (01)] SILVIO O. CONTE CENTERS FOR BASIC AND TRANSLATIONAL MENTAL HEALTH RESEARCH
2009	ZRG1 Brain Disorders and Clinical Neuroscience IRG BDCN-C (95) Clinical Addiction and Psychopathology
2009	NIMH Extramural Review Branch [ZMH1 ERB-L (08)] Novel Interventions for Neurodevelopmental Disorders RFA review MH 09-060/1

2007	ZRG1 Molecular, Cellular, and Developmental Neuroscience [MDCN-K (50)] Neurotechnology/Engineering SEP
2006	ZRG1 Surgical Sciences, Biomedical Imaging, and Bioengineering IRG [SBIB-J 51R], Development of Methods for In Vivo Imaging and Bioengineering Research
2006	ZRG1 Brain Disorders and Clinical Neuroscience IRG [BDCN-C (60)] Imaging of Tourette's Syndrome
2006	ZRG1 Molecular, Cellular, and Developmental Neuroscience [MDCN-K (50)] Neurotechnology and Neuroengineering
2005	NINDS Language and Communication Study Section (LCOM) – 2 meetings
2005	NIDA ZDA1 MXS-M 01
2004	NINDS ZNS1 SRB-H (19) SNRP Review (Special Emphasis Panel)
2003	ZRG1 F02A (21), IFCN (Integrative, Functional And Cognitive Neuroscience)

#### Trans-NIH Leadership Positions

2023 – present	Trans-NIH Biomedical Technology and Engineering Collective (bTEC)
2022 – present	NIH BRAIN Initiative Brain Behavior Quantification and Synchronization (BBQS) Team co-Lead
2022 – present	Foundation for the NIH Accelerating Medicines Partnership Schizophrenia (AMP SCZ) Compound Selection and Proof of Principle Trial Strategy Working Group.
2020 – 2021	NIH Representative for SAMHSA Technical Expert Panel: <a href="#">“EVIDENCE- BASED RESOURCE GUIDE SERIES: Prevention and Treatment of Anxiety, Depression, and Suicidal Thoughts and Behaviors Among College Students”</a>
2020 – present	Foundation for the NIH Accelerating Medicines Partnership Schizophrenia (AMP SCZ) Steering Committee Ex Officio Member.
2019 – 2021	NIH Lead for the National Academy of Sciences Project <a href="#">“Supporting the Whole Student: Mental Health, Substance Use, and Well-Being Among</a>



	<a href="#">Learners in Higher Education.</a> "
2017 – 2020	Leader, NIMH/NINDS/NIDA/NIAAA Working Group on Transcranial Magnetic Stimulation.
2016 – present	Co-Lead of the NIH Noninvasive Brain Stimulation Scientific Interest Group.
2016 – 2020	Leader, Noninvasive Neuromodulation Work Group, Clinical Neurosciences Intramural Research Program (IRP) – NIMH/NIDA/NIAAA/NINDS.
2016 – 2020	NIH Translational Research Interest Group (TRIG)
2016 – 2020	NIH Common Fund "Mechanisms of Fatigue" Group
2016 – 2018	BRAIN Initiative NINDS/NIMH Leadership Team
2015 – present	BRAIN Initiative Team B (co-Lead from 2015-2018)
2015 – present	BRAIN Initiative Coordination Team
2015 – present	Blueprint / BRAIN Initiative Institute/Center Directors' Committee

#### NIH Initiative Development (selected)

[RFA-MH-23-130](#) BRAIN Initiative: Brain Behavior Quantification and Synchronization – Data Coordination and Artificial Intelligence Center (U24 Clinical Trial Optional)

[NOT-MH-23-115](#) BRAIN Initiative: Developing Data Archive, Informatics Tools and Data Standards for Brain Behavior Quantification and Synchronization (BBQS)

[RFA-MH-23-335](#) BRAIN Initiative: Brain Behavior Quantification and Synchronization (R61/R33 Clinical Trial Optional)

[RFA-DA-23-030](#) BRAIN Initiative: Brain-Behavior Quantification and Synchronization – Transformative and Integrative Models of Behavior at the Organismal Level (R34 Clinical Trial Not Allowed)

[Concept Clearance](#) Brain Research through Advancing Innovative Neurotechnologies® (BRAIN)

Initiative: Brain-Behavior Quantification and Synchronization, National Advisory Mental Health Council (NAMHC) Clearance September 14, 2021

[PAS-21-216](#) Identification of Positive Valence System Related Targets for Novel Suicide Prevention Approaches

[RFA-MH-17-240](#) BRAIN Initiative: Non-Invasive Neuromodulation - New Tools and Techniques for Spatiotemporal Precision

[RFA-MH-17-245](#) BRAIN Initiative: Non-Invasive Neuromodulation - Mechanisms and Dose/Response Relationships for Targeted CNS Effects

[RFA-MH-17-600](#) Early Stage Testing of Pharmacologic or Device-based Interventions for the Treatment of Mental Disorders (R61/R33)

#### Food and Drug Administration (FDA) Panels

2010 – present	Member, FDA Neurological Devices Panel
2009 – 2010	Consultant to the Food and Drug Administration: Neurological Devices Panel, Medical Devices Advisory Committee, and to the Center for Devices and Radiological Health. Member of the Neurological Devices Panel

#### Other Federal Service

2021 - 2022	NIDA Division of Therapeutics and Medical Consequences (DTMC) Director Search Committee
2017	NIH Cutting Edge Science Meeting Series to End the Opioid Crisis. Invited participant at the “Understanding the Neurobiology Mechanisms of Pain” meeting - July 7, 2017

2005 – 2007 Defense Sciences Study Group: Served 20 days per year over 2 years, providing consultation to the Institute for Defense Analysis and DARPA on how new developments in medical science can help to defend National Security. Maintained Secret Security Clearance.

### Scientific Advisory Councils

2024 – present Scientific Advisory Board (SAB) of the Coordination and Support Action (CSA) [BrainHealth](#) [CSA BrainHealth is a EU-funded project that aims to prepare a European Partnership on Brain Health and coordinate the research and innovation activities in this area. The Partnership will seek to strengthen basic, translational, clinical, social and participatory research as well as technological efforts.]

2023 – present DARPA [STRENGTHEN](#) (Strengthening Resilient Emotions and Nimble Cognition through Engineering Neuroplasticity) Science Panel

2023 – present Scientific Advisory Board for the ADaptive and Precise Targeting of cortex-basal ganglia circuits in Parkinson's Disease (ADAPT-PD) Trial, Danish Research Centre for Magnetic Resonance, Denmark [a Lundbeck Foundation Collaborative Project Grant]

2021 – present Scientific Advisory Board for the Aalto University School of Science, Netherlands

2021 – 2022 Scientific Evaluation Committee, German Center for Mental Health (DZPG) – National research consortium funded by the German Ministry for Education and Research (BMBF)

2021 – 2022 Scientific Advisory Committee for the Milken Institute Bipolar Roadmap Initiative

2021 – 2022 Review Board for the International Max Planck Research School for Translational Psychiatry

2020 – present Scientific Council of the Brain Behavior Research Foundation (BBRF)

2015 – present	Scientific Advisory Board, German Center for Brain Stimulation– National research consortium funded by the German Ministry for Education and Research (BMBF)
2015 – 2024	Burroughs Wellcome Fund (BWF) Career Awards for Medical Scientists (CAMS) Scientific Advisory Committee
2014 – 2015	Steering Committee for the Duke Center for Autism and Brain Development
2014 – 2015	Duke Center for Child and Family Policy Strategic Planning Task Force
2011 – 2015	Chairs and Directors Advisory Council, Duke Institute for Brain Sciences (DIBS)
2010 – 2015	Scientific Advisory Board, VISN 6 MIRECC, US Department of Veterans Affairs, Mid-Atlantic, Post Deployment Mental Health
2010 – 2015	Duke Translational Research Institute (DTRI) Advisory Council

#### Non-NIH Grant Review Committees

Australian NHMRC

Austrian Science Fund

Autism Speaks – Science Treatment Grant Review panel 2006-2008

Burroughs Wellcome Fund (BWF) Career Awards for Medical Scientists (CAMS)

Cure Autism Now

FDA Office of Women's Health (OWH) FY 2013 Intramural Scientific Research Program peer reviewer

Food and Standards Agency of the UK

International Max Planck Research School for Translational Psychiatry (IMPRS-TP) evaluation, 2020

Israel Health Research Board

Israel Science Foundation

Ontario Mental Health Foundation

PCORI – Chair of PCORI Review on “Management Strategies for Treatment-Resistant Depression” – Cycle 3 2015 Funding Cycle, May 19, 2016

## Veterans Administration

**Elected Fellow or Distinguished Fellow in Professional Organizations**

2022	Distinguished Life Fellow, American Psychiatric Association (DLFAPA)
2013	Distinguished Fellow, American Psychiatric Association (DFAPA)
2013	Fellow, American College of Neuropsychopharmacology (ACNP)
2005	Fellow, Association for Convulsive Therapy (now known as International Society for ECT and Neuromodulation).

**Leadership Positions in Professional Societies**

2022 – present	International Federation of Clinical Neurophysiology (IFCN) Brain Stimulation Special Interest Group Leader (BS-SIG)
2018 – 2022	Ex Officio Board Advisor, National Network of Depression Centers (NNDC) Executive Committee
2014 – 2018	Executive Committee Member-At-Large, National Network of Depression Centers (NNDC) – Elected position
2011	Conference Co-President, 2011 Annual Meeting of the Association for Research in Nervous and Mental Diseases (ARNMD)
2010 – 2018	Board of Directors, National Network of Depression Centers (NNDC) – Elected position
2009 – 2021	Founding Chair, National Network of Depression Centers (NNDC) rTMS Work Group
2008 – 2015	Chair, American Psychiatric Association Task Force to Revise the Practice of Electroconvulsive Therapy
2008 – 2012	Co-Chair, TMS Certificate Course, Association for Convulsive Therapy (ACT, now International Society for ECT and Neurostimulation).

2004 – 2015	Board of Directors, Association for Convulsive Therapy (now known as the International Society for ECT and Neurostimulation).
2004 – 2008	President, International Society of Transcranial Stimulation – Elected position
2002 – 2004	President, Association for Convulsive Therapy – Elected position
2002 – 2008	Chair, American Psychiatric Association Committee on ECT and Related Electromagnetic Therapies.
1999 – 2001	Vice President, Association for Convulsive Therapy – Elected position
1999 – 2002	Chair, Program Committee, Association for Convulsive Therapy.
1997 – 1999	Secretary, Association for Convulsive Therapy – Elected position
1995 – 2015	Executive Committee, Association for Convulsive Therapy.
1995 – 1997	Treasurer, Association for Convulsive Therapy – Elected position
1993 – 1995	Editorial Board, Psychiatry Residents In-Training Exam (PRITE), American College of Psychiatrists

### Service in Professional Societies

2023 – present	International Federation of Clinical Neurophysiology (IFCN) Research Committee
2023	NASEM Neuroscience Forum Fall 2023 workshop “Exploring the Adoption of Implantable Brain Stimulation into Standard of Care for CNS Disorders” Planning Committee. Washington, DC. October 31, 2023
2022 – 2023	American College of Neuropsychopharmacology (ACNP) Nominating Committee
2021 – present	National Network of Depression Centers (NNDC) Neuromodulation Task Group
2021 – present	Society for Biological Psychiatry, Program Committee
2020 – 2021	Neurotechnology Working Group of the National Academy of Medicine (NAM) Committee on Emerging Science, Technology, and Innovation in Health and Medicine (CESTI)

- 2019 Program Committee Member and Session Chair – 2019 Neuromodulation: The Science / NYC Neuromodulation joint conference, Oct 4-6, 2019, Napa, California
- 2019 – 2022 American College of Neuropsychopharmacology (ACNP) Program Committee
- 2014 – 2019 ACNP Women’s Task Force Member (Co-Chair, 2017, Chair 2018)
- 2010 – 2010 National Network of Depression Centers (NNDC) Conference Planning Committee
- 2009 – 2010 National Network of Depression Centers (NNDC) Research Domain Committee
- 2009 – 2021 National Network of Depression Centers (NNDC) Electroconvulsive Therapy (ECT) Task Group
- 2009 – 2012 ACNP Credentials Committee
- 2008 – 2015 International Federation of Clinical Neurophysiology (IFCN) Committee to write the TMS Training Guidelines
- 2008 – 2010 Collegium Internationale Neuro-Psychopharmacologicum (CINP) International Scientific Programme Committee – Hong Kong 2010
- 2007 – 2010 Agency for Healthcare Research and Quality (AHRQ) Technical Expert Group member for Comparative Effectiveness Reviews (CERs) on Non-pharmacologic Treatment of Depression
- 2007 – 2009 International Federation of Clinical Neurophysiology Committee to Revise the International Guidelines on the Safety of TMS
- 2006 – 2009 ACNP Animal Research Committee Member.
- 2006 – 2010 World Federation of Societies of Biological Psychiatry (WFSBP) Task Force on Brain Stimulation Charter Member.
- 2003 – 2005 Society for Biological Psychiatry, Program Committee Member.
- 2003 – 2015 American Psychiatric Association Task Force to Revise the Practice of Electroconvulsive Therapy.
- 2003 – 2014 American Psychiatric Association Council on Research (APA Task Force on

	ECT representative)
2000 – 2003	American Psychiatric Institute for Research and Education Scientific Advisory Panel.
1994 – 1995	American Psychiatric Association Caucus of Psychiatrists Working With Deaf and Hard of Hearing Persons.
1993 – 1995	North Carolina Psychiatric Association Education Task Force.

### Professional Organizations Memberships

2014 – present	Society for Biological Psychiatry
2013 – present	Association of American Physicians – Elected to membership
2009	Society for Executive Leadership in Academic Medicine
2001 – present	American College of Neuropsychopharmacology (ACNP): Fellow, Full Member since 2003, Associate Member (2001-2003)
2000 – 2005	American Association for Geriatric Psychiatry
1997 – present	International Society of Transcranial Stimulation, Charter member.
1995 – present	Association for Convulsive Therapy (now known as International Society for ECT and Neuromodulation).
1991 – present	American Psychiatric Association, currently Distinguished Life Fellow

### Honors and Awards

2024	NIMH Special Act Award in recognition of extraordinary efforts in security Congressional funds to address serious mental illness, leading to the \$75 million increase in the FY2024 appropriation to NIMH for the “Mission for Mental Health” research agenda.
2023	<a href="#">NIH Director’s Award</a> for exceptional collaboration and leadership of the Accelerating Medicines Partnership® Schizophrenia program



- 2023 NIMH 75<sup>th</sup> Anniversary Celebration Honored Presenter Award
- 2022 NIMH Director's Award for Scientific Contribution – Accelerating Medicines Partnership for Schizophrenia (AMP-SCZ), which aims to develop novel treatment approaches that will make a meaningful difference in the lives of individuals at risk for schizophrenia.
- 2021 NIMH Director's Award for Scientific Contribution – Scientific Leadership Recruitment Search Committee
- 2021 Flexner Award, Mahoney Institute for Neurosciences, University of Pennsylvania, Nov 3, 2021
- 2021 Donders Lectureship, Donders Institute for Brain, Cognition and Behaviour at Radboud University, Netherlands, Sept 9, 2021
- 2021 NIH Commendation from Dr. Francis Collins, NIH Director, "For commitment to the NIH Community in 2020-2021 as a volunteer member of the NIH Staff Support Line in response to the COVID-19 Pandemic"
- 2020 NIMH Director's Award for Scientific Contribution – Accelerating Medicines Partnership – Schizophrenia (AMP-SCZ)
- 2020 NIMH Director's Award for Making a Difference – NIH Staff Support Line
- 2020 Named to the Clarivate list of "Most Highly Cited Researchers" in "Cross-Field," based on the number of highly cited papers from January 2009 to December 2019
- 2017 Sidney R. Baer, Jr. Visiting Professorship, Harvard University, Berenson-Allen Center for Noninvasive Brain Stimulation, April 25-26, 2017. "Rational Design of Magnetic and Electrical Seizure Therapies"
- 2015 Best Doctors in America list for 2015-2016
- 2014 American College of Neuropsychopharmacology Eva King Killam Award for Translational Research
- 2014 Selected Fellow of the American College of Neuropsychopharmacology
- 2014 University of Florida College of Medicine and McKnight Brain Institute Visiting Professor, May 16, 2014.

- 2013 Elected to the Association of American Physicians
- 2012 Distinguished Visiting Scholar – Virginia Tech Carilion Research Institute (VTCRI), March 29-30, 2012
- 2012 Elected to Alpha Omega Alpha (AOA), Duke School of Medicine Chapter of this National Medical honor society
- 2011 American Psychiatric Association Distinguished Psychiatrist Lecture Awardee, May 15, 2011.
- 2009 NARSAD Distinguished Investigator Awardee.
- 2009 Finalist, Staglin Rising Star Award of the International Mental Health Research Organization
- 2008 – 2009 Fellow, Hedwig van Ameringen Executive Leadership in Academic Medicine (ELAM) Program for Women
- 2008 Association for Convulsive Therapy Honored Speaker Award
- 2005 – 2007 Defense Sciences Study Group – Selected by the Institute for Defense Analysis and DARPA
- 2004 Collegium Internationale Neuro-Psychopharmacologicum (CINP) Max Hamilton Memorial Prize.
- 2003 Beeson Physician Faculty Scholars Award, American Foundation for Aging Research (AFAR).
- 2002 EEG and Clinical Neuroscience Society (ECNS) Early Career Award
- 2001 Klerman Prize, Brain & Behavior Research Foundation (BBRF).
- 2001 Gerald L. Klerman Award from the the Depression and Bipolar Support Alliance (DBSA).
- 2000 APA/SmithKline Beecham Young Faculty Award for Exceptional Promise in Biological Psychiatry.
- 1999 Lowenbach Lecturer, Duke University Department of Psychiatry.
- 1998 HealthEmotions Research Institute Scholar.
- 1997 Lilly Fellowship Award of the Society of Biological Psychiatry.
- 1997 American College of Neuropsychopharmacology ACNP / Bristol-Myers

- Squibb Travel Fellowship.
- 1996 Resident Fellow of the American Psychoanalytic Association.
- 1996 National Alliance for Research on Schizophrenia and Depression (NARSAD) Young Investigator Award.
- 1996 American Association for Geriatric Psychiatry Summer Research Institute.
- 1993 – 1994 Medical Student Teaching Award, Duke University Medical Center.
- 1993 – 1995 American College of Psychiatrists PRITE Fellowship.
- 1993 – 1995 American College of Psychiatrists Editorial Board Member of the PRITE (Psychiatry Residents In-Training Exam).
- 1993 Rauch Travel Fellowship.
- 1991 Hewlett Packard Award for Medical Scholastic Achievement, Duke University Medical School.
- 1991 American Medical Women's Association Award for Scholastic Achievement, Duke University Medical School.
- 1987 Karl E. Zener Award for Outstanding Performance in Psychology, Duke University.
- 1986 Phi Beta Kappa.
- 1986 – 1987 Faculty Scholarship awarded by the Duke University Academic Council for academic excellence and independent scholarship.
- 1984 Phi Eta Sigma.
- 1984 – 1987 Early Identification Program (EIP) for early acceptance to Duke Medical School.
- 1983 National Merit Finalist.
- 1983 – 1987 Angier B. Duke Memorial Full Tuition Merit Scholarship to Duke University and New College, Oxford University.

#### Clinical Leadership Positions

- 2010 – 2015 Director, Transcranial Magnetic Stimulation Service, Duke Physicians

	Diagnostic Clinic, LLC
2010 – 2015	Board of Directors, Duke Physicians Diagnostic Clinic, LLC
2010 – 2015	Executive Committee of the Medical Staff, Duke University Health System
2006 – 2010	Director, Brain Stimulation Service Line, New York Presbyterian Hospital, New York, NY. Including 3 hospital system – Columbia Presbyterian, Cornell Westchester, and Weill Cornell Payne Whitney
2006 – 2010	Director, ECT Service Line, New York Presbyterian Hospital, New York, NY. Including 3 hospital system – Columbia Presbyterian, Cornell Westchester, and Weill Cornell Payne Whitney.
2004 – 2010	Founder and Director, Brain Stimulation Service, Department of Psychiatry, New York Presbyterian Hospital, New York, NY.
2004 – 2005	Medical Director, Columbia Depression Developing Center.
1998 – 2010	Founder and Director, Brain-Behavior Clinic, New York State Psychiatric Institute.
1998 – 2005	Associate Director, New York State Psychiatric Institute Division of Biological Psychiatry PET Service.
1997 – 1999	Director of Emergency Medical Services, New York State Psychiatric Institute.

### Clinical Appointments

2015 – present	Clinical Privileges, NIH Clinical Center, Bethesda, MD.
2010 – 2016	Member, Duke Physicians Diagnostic Clinic, LLC
2010 – 2015	rTMS Attending, Duke University Health System.
2010 – 2015	ECT Attending, Duke University Health System.
2010 – 2016	Clinical privileges, Duke University Health System.
1998 – 2010	Assistant Attending Psychiatrist, Columbia Presbyterian Medical Center.
1995 – 2005	Staff Psychiatrist, Late Life Depression Clinic, Columbia University.
1995 – 2010	ECT Attending, New York State Psychiatric Institute.

1995 – 1998 Clinical Assistant Psychiatrist, New York Presbyterian Hospital, New York, NY.

#### Medical / DEA Licensure

1995 – present Drug Enforcement Agency License, New York State.

1995 – present New York State Medical Board, Medical License.

1991 – present North Carolina Medical Board, Medical License.

#### Invited Talks (selected)

- 2024 Society of Biological Psychiatry 2024 Annual Meeting Plenary Address “Device-based therapies: Unpacking the past, rebuilding the present, and re-tooling the future of neuromodulation in psychiatry.” May 11, 2024. Austin, Texas.
- 2023 NASEM Neuroscience Forum Fall 2023 workshop “Exploring the Adoption of Implantable Brain Stimulation into Standard of Care for CNS Disorders” Synthesis Panel Speaker. Washington, DC. October 31, 2023.
- 2023 Ludwig-Maximilians-University Workshop “Targeting Variability in Transcranial Stimulation Research” Plenary Lecture. October 6, 2023. Munich, Germany.
- 2023 National Institute of Mental Health sponsored workshop on Ultrasound Neuromodulation for Mental Health Applications “Targeting Mental Health with Neuromodulation.” Virtual, September 15, 2023
- 2023 National Institute of Mental Health 75<sup>th</sup> Anniversary Kick-Off Celebration Keynote Speaker “From ‘One-Size-Fits-All’ to Personalized Neuromodulation: The Evolution of Brain Stimulation for Brain Health.” Bethesda, MD, September 13, 2023
- 2023 American Psychiatric Association Annual Conference – Resident, Fellow, Medical (RFM) session “Networking your way into a research career.” San Francisco, California, May 24, 2023
- 2023 American Psychiatric Association Annual Conference – Presidential Session

- “Interventional Psychiatry: Advances, Acceptability, and Access.” San Francisco, California, May 21, 2023
- 2023 NeuroGateways 2023, hosted by the UAB Center for Neuroengineering and Brain-Computer Interfaces. “NextGen Seizure Therapy and the Future of Brain Behavior Quantification and Synchronization.” Birmingham, AL, March 20, 2023
- 2022 American College of Neuropsychopharmacology (ACNP) annual meeting. Career Development panel. Phoenix, AZ, December 6, 2022
- 2022 American College of Neuropsychopharmacology (ACNP) annual meeting. Developing Novel Clinical Outcome Assessments (COAs) for Psychiatric Illnesses Study Group. Phoenix, AZ, December 6, 2022
- 2022 International Network of Neuroimaging Neuromodulation (INNN) Webinar Series on Dose Response in Non-Invasive Brain Stimulation, invited speaker “Optimizing the spatial precision of seizure therapy through e-field modeling.” November 10, 2022. Video available [here](#).
- 2022 International Network of Neuroimaging Neuromodulation (INNN) Webinar Series on Dose Response in Non-Invasive Brain Stimulation, co-Chair and invited speaker “Dose-Response Dilemma in Non-Invasive Brain Stimulation.” November 3, 2022. Video available [here](#).
- 2022 Institute of Electrical and Electronics Engineering (IEEE) – Sensors 2022 Annual Meeting. Invited Keynote lecture “Brain-Behavior Quantification and Synchronization.” Dallas, Texas, October 31, 2022
- 2022 National Academies of Sciences, Engineering, and Medicine – Forum on Neuroscience and Nervous System Disorders Membership Meeting invited presentation “State of the Science of Noninvasive Neuromodulation,” Washington, DC, October 25, 2022
- 2022 International Society for Magnetic Resonance in Medicine (ISMRM) Workshop on MRI of Neuromodulation: Target Engagement, Neural Mechanism and Biomarker Development. Invited Keynote Address “MRI of Neuromodulation: The Big Picture,” Bethesda, MD, Oct 17, 2022

- 2022 Genes, Brain, and Behavior 2022 [Annual Meeting of the International behavioral and Neural Genetics Society (IBANGS)] invited plenary “Brain-Behavior Quantification and Synchronization,” Memphis, TN, May 25, 2022
- 2021 American College of Neuropsychopharmacology (ACNP) annual meeting NPPR Symposium invited lecture “Noninvasive Neuromodulation of the Prefrontal Cortex in Mental Health Disorders,” San Juan, PR, Dec 6, 2021
- 2021 Flexner Award Lecture, “Adventures in Psychiatric Neuromodulation,” Mahoney Institute for Neurosciences, University of Pennsylvania, Nov 3, 2021
- 2021 University of Illinois Chicago Research Extravaganza Keynote lecture “Frontiers in Psychiatric Neuromodulation,” Oct 13, 2021
- 2021 World Congress of Neurology invited symposium lecture “Noninvasive Brain Stimulation and Psychiatric Symptoms in Neurological Disorders,” Oct 3, 2021
- 2021 World Congress of Neurology invited symposium lecture “Therapeutic Potential of Magnetic Seizure Therapy,” Oct 4, 2021
- 2021 Donders Lecture, “Innovations in Brain Stimulation for Depression,” Donders Institute for Brain, Cognition and Behaviour at Radboud University, Netherlands, Sept 9, 2021
- 2021 American Society of Clinical Psychopharmacology (ASCP) Keynote Plenary lecture: “Incorporating New Developments in Neuromodulation Devices into Research and Practice: Obstacles and Outlook for the Future,” June 3, 2021
- 2021 International Society for CNS Clinical Trials and Methodology (ISCTM) 17<sup>th</sup> Annual Scientific Meeting invited talk “Integrating Cognitive Interventions with Neuromodulation,” April 8, 2021
- 2020 American College of Neuropsychopharmacology (ACNP) Symposium Chair “BRAIN Initiative 2020: Progress and Promise for Next-Gen Therapeutics,” Dec 8, 2020
- 2020 American College of Neuropsychopharmacology (ACNP) Symposium Study Group “Aggression in the Context of Mental Illness,” Dec 7, 2020
- 2020 64<sup>th</sup> Annual Meeting of the German Society for Clinical Neurophysiology and Functional Imaging and 7<sup>th</sup> International Conference on Non-Invasive Brain

- Stimulation invited lecture: "Precision Neuromodulation: Challenges, Opportunities and Perspectives," Nov 10, 2020
- 2020 Duke Medical Alumni Psychiatry Grand Rounds Lecture "Neuromodulation in Psychiatry: *New Developments and Future Directions*," Nov 5, 2020
- 2020 2020 IEEE Brain Workshop on Advanced Neurotechnologies Invited lecture "Target Engagement in Mental Health: Challenges and Opportunities," Oct 22, 2020
- 2020 American Academy of Child and Adolescent Psychiatry (AACAP) Annual Research Institute Symposium "Neuromodulation in Children and Adolescents: The Devil is in the Dosing," Oct 22, 2020
- 2020 National Alliance for Mental Illness (NAMI) Ask the Expert Session "New Horizons in Schizophrenia Research," Oct 8, 2020
- 2020 Invited Panelist, "Role of reward processing assessment as a tool in drug development: Translational Considerations" International Society for CNS Clinical Trials and Methodology (ISCTM) Annual Scientific Meeting, Feb 21, 2020, Washington, DC
- 2020 Mount Sinai Psychiatry Grand Rounds, "Devices, Data Science, & the Transformation of Psychiatry," Jan 28, 2020
- 2019 Session Chair "Precision Neurostimulation for Treatment of Psychiatric Disorders." American College of Neuropsychopharmacology Annual Meeting, Dec 10, 2019, Orlando, Florida
- 2019 Invited Panelist, "Artificial Intelligence as a Transformative Force for Research and Practice in Neuropsychiatric Disorders: A Realistic Aspiration or a Magical Fantasy?" Chaired by Dilip Jeste and John Torous. American College of Neuropsychopharmacology Annual Meeting, Dec 10, 2019, Orlando, Florida
- 2019 Invited Session Chair and Plenary Speaker, "Noninvasive Brain Stimulation (NIBS) State of the Science and NIH BRAIN Initiative Funding Priorities," 2019 Neuromodulation: The Science / NYC Neuromodulation joint conference, Oct 4-6, 2019, Napa, California.
- 2019 Invited Presenter at the Public Launch of the National Academies of Sciences,



- Engineering, and Medicine “Supporting the Whole Student: Mental Health, Substance Abuse, and Well-being in Higher Education.” Washington, DC. Sept. 16, 2019
- 2019 Invited Plenary Speaker, “Frontiers in Neurostimulation for Mental Health.” 7<sup>th</sup> Annual Minnesota Neuromodulation Symposium. Minneapolis, MN. April 18, 2019.
- 2019 Invited Plenary Speaker, “Advancing Brain Stimulation Precision Medicine Through Tech Innovation: space / time / context.” 3<sup>rd</sup> International Brain Stimulation Conference, Vancouver, Canada. February 27, 2019.
- 2019 Invited Panel Presentation, “Precision Seizure Therapy: Towards safer and personalized depression care for the future.” 3<sup>rd</sup> International Brain Stimulation Conference, Vancouver, Canada. February 25, 2019.
- 2019 Djavad Mowafaghian Centre for Brain Health Neuroscience Research Colloquium, University of British Columbia, Vancouver, Canada. February 22, 2019.
- 2019 Yale Psychiatry Grand Rounds, “Precision Seizure Therapy.” January 18, 2019. video available [here](#).
- 2018 Intelligence Community Studies Board, Division on Engineering & Physical Sciences Forum “Surprise Resulting from Convergence.” Invited talk “Noninvasive Neuromodulation Devices and Technologies and National Security.” National Academies of Sciences, Engineering, and Medicine, The Keck Center of the National Academies. Washington, DC, December 4, 2018
- 2018 Invited Participant at the “Forum on Emerging Areas of Policy Relevant Science and Technology Research and Applications,” convened to brief the US White House Office of Science and Technology Policy (OSTP) by the Institute for Defense Analysis (IDA) Science and Technology Policy Institute (STPI). Washington, DC, October 30, 2018.
- 2018 Australasian Brain Stimulation Society Inaugural International Keynote Lecture “Brain Stim for Brain Health: Promises, Challenges, and Paths Forward.” Melbourne, VIC, Australia, August 17, 2018.
- 2018 Royal Australian & New Zealand College of Psychiatrists Section of

- Electroconvulsive Therapy and Neurostimulation Conference. Invited International Keynote Lectures “The Evolution of ECT: From Cerletti and Bini to the BRAIN Initiative” and “Next Generation Seizure Therapy: Sculpting the spatial and temporal aspects of therapeutic seizures.” Yarra Valley, Chirnside Park, Victoria, Australia, August 18-19, 2018.
- 2018 American Psychiatric Association Annual Meeting. Invited Presidential Symposium Chair “ECT in the Era of New Brain Stimulation Treatments: Road Map for Future Enhancements.” New York, NY, May 7, 2018
- 2018 American Psychiatric Association Annual Meeting. Invited Presenter “rTMS from Psychiatry to Addiction.” New York, NY, May 7, 2018
- 2018 American Psychiatric Association Annual Meeting. “Using Neurobiology to Inform the Development of Novel Interventions for Depression.” Invited Discussant. New York, NY, May 7, 2018
- 2018 Carolina Neurostimulation Conference 2018. Invited KeyNote Address “Future of Brain Stimulation.” University of North Carolina, Chapel Hill, NC, May 22, 2018
- 2018 31<sup>st</sup> International Congress of Clinical Neurophysiology (ICCN) of the International Federation of Clinical Neurophysiology. Invited Address “NIH Initiatives Using NIBS in Health and Disease.” Washington, DC, May 2, 2018.
- 2018 International Neuropsychology Society Annual Conference. Invited Keynote Address “Where Neuromodulation and Neuropsychology Meet – Promoting Plasticity to Enhance Brain Health.” Washington, DC, February 16, 2018.
- 2017 NIDA Neuromodulatory Devices to Treat Substance Use Disorders: State of the Science and Future Directions. Invited speaker and workshop participant: “FDA-Approved indications for Neuromodulation.” Rockville, MD, Nov 13, 2017.
- 2017 Harvard / McLean Technology in Psychiatry Summit. Invited Keynote Address “Transforming Psychiatry through Innovation in Technology.” Boston, MA, November 6, 2017. Webcast available [here](#).
- 2017 2017 NIDA-NIAAA Mini-Convention: Frontiers in Addiction Research. “Non-invasive Brain Stimulation for Translational Research.” Washington, DC. Nov 10, 2017.

- 2017 2<sup>nd</sup> European Conference on Brain Stimulation in Psychiatry (ECBSP), Munich, Germany, October 12, 2017. Keynote Speaker “Translational Research on Brain Stimulation.”
- 2017 BRAIN Initiative Multi-Council Work Group. Brain-Behavior Quantification Concept Clearance. May 16, 2017, Rockville, MD. Webcast available [here](#).
- 2017 Society for Biological Psychiatry Annual Meeting, San Diego, CA, April 18, 2017. Plenary Address “Transforming Mental Health Treatment through Innovation in Tools, Targets, and Trials.”
- 2017 Association of American Physicians/ASCI Annual Meeting, Chicago, Illinois, April 21, 2017. Plenary Session “Health Brain, Healthy Living.” Talk Title “The White House BRAIN initiative: Revolutionizing Brain Health through Innovative Technologies.”
- 2017 National Institutes of Health Clinical Center Grand Rounds. March 15, 2017. Invited Grand Rounds “Noninvasive Neuromodulation in Psychiatry: Stimulating the Science of Mental Health.” Co-presented with Dr. Matt Rudorfer. Webcast available [here](#).
- 2016 Symposium Co-Chair and Invited Speaker, Society for Neuroscience Annual Meeting. Symposium title “Advances in Noninvasive Brain Stimulation Along the Space-Time Continuum.” Talk title “Optimizing seizure therapy: Sculpting the temporal and spatial aspects of therapeutic seizures.” November 14, 2106, San Diego, California.
- 2016 Cohen Veterans Care Summit – Joining Forces on the Road to Discovery: Advancing the PTSD Research Agenda. “Can we Predict and Prevent PTSD.” Sept 22-23, 2016, Washington, DC. Webcast available [here](#).
- 2016 Organization for Economic Cooperation and Development (OECD) Workshop “Neurotechnology and Society: Strengthening Responsible Innovation in Brain Science.” Invited panelist for “The case of non-invasive neuromodulation: Integrating ELSA/RRI into research, development, and regulation.” Sept 14-15, 2016, National Academy of Sciences, Washington, DC.
- 2016 6<sup>th</sup> International Conference on Transcranial Brain Stimulation (TBS). Symposium Co-Chair “TBS Therapy in Psychiatry.” Sept 10, 2016, Göttingen, Germany.

- 2016 38<sup>th</sup> Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBS) Invited Keynote Address: "The State of the BRAIN Initiative." August 17, 2016, Orlando, Florida.
- 2016 BRAIN Initiative Multi-Council Work Group. Team B Presentation on Large-scale modulation and recording technologies. August 2, 2016, Rockville, MD. Webcast available [here](#).
- 2016 National Alliance on Mental Illness (NAMI) National Convention 2016 Research Plenary Keynote presentation. July 9, 2016, Denver, CO.
- 2016 American Society for Stereotaxic Functional Neurosurgery (ASSFN) Workgroup on Neuromodulation for Psychiatric Disease. "NIMH Priorities relevant to neuromodulation in Psychiatry." June 18, 2016, Chicago, IL.
- 2016 National Academy of Medicine Forum on Neuroscience and Nervous System Disorders "Multi-Modal Therapies for Brain Disorders: A Workshop." Workshop co-Chair and presenter. June 14-15, 2016, National Academy of Medicine, Keck Center, Washington, DC.
- 2016 American Society of Clinical Psychopharmacology (ASCP) 2016 Annual Meeting. "NIMH Director's Update." June 2, 2016, Scottsdale, AZ.
- 2016 American Society of Clinical Psychopharmacology (ASCP) 2016 Annual Meeting. "Managing the unique challenges associated with rapid acting antidepressant trials." June 1, 2016, Scottsdale, AZ.
- 2016 American Association for the Advancement of Science (AAAS) Workshop "Convergence: The Future of Health" invited speaker "Convergence to Overcome Brain Disorders", March 24th and 25th, 2016, Washington, DC.
- 2016 NIH Demystifying Medicine 2016 Series. "Depression: Neuromodulation meets super-resolution cell biology." March 8, 2016, Bethesda, MD. Webcast available [here](#).
- 2016 BRAIN Initiative Multi-Council Work Group. Team B Presentation on Large-scale modulation and recording technologies. Feb. 8, 2016, Rockville, MD. Webcast available [here](#).

- 2015 Institute of Medicine (IOM) Workshop on Non-Invasive Neuromodulation: "Noninvasive Neuromodulation in Psychiatric Treatment: Current and Developing." March 2-3, 2015, Washington, DC.
- 2015 FDA Neurodiagnostics and Non-Invasive Brain Stimulation Medical Devices Workshop, Stakeholders Perspective and State of the Science Presentations. Nov 19-20, 2015
- 2015 Greden Lectureship, University of Michigan, Department of Psychiatry, October 1, 2015. "Next Gen Brain Technologies: How targeted neuromodulation is and is not impacting psychiatric practice."
- 2015 BRAIN Initiative Investigators Meeting, Session on Technology Integration, Presentation on Imaging and Modulating the Human Brain, 12/10/2015
- 2015 BRAIN Initiative Multi-Council Work Group – invited to present on opportunities in noninvasive brain stimulation for FY16 new initiatives, July 30, 2015. Webcast available [here](#).
- 2015 NIMH Sponsored Meeting "Brain Stimulation Based Neural Circuit Modeling: Linking levels of analysis" Satellite to Society for Neuroscience, October 16, 2015, Chicago.
- 2015 Chair and Presenter, American Psychiatric Association Invited Symposium: "Seizure therapy for depression: Teaching and 'Old Dog' some 'New Tricks.'" May 19, 2015, Toronto, Canada.
- 2015 NIMH Brain Camp VII. "Space, Time, and Context: The where, when, and how of focal neuromodulation in psychiatry." May 2-3, 2015. Banbury Center, Cold Spring Harbor, NY.
- 2015 Minnesota Neuromodulation Symposium. "TMS in psychiatric treatment: the devil is in the dosing." April 16-17, 2015.
- 2015 KeyNote Speaker, International Anesthesia Research Society – International Science Symposium: Anesthesiology and Psychiatry: A New Frontier. March 21, 2015. Honolulu, Hawaii
- 2015 American College of Psychiatrists, Chaired 2 day series on "Innovations in Brain Stimulation", February 19-20, 2015. Huntington Beach, CA.

- 2014 NIMH Brain Camp VI. "Device-Based Neuromodulation: From Engineering Bench to Bedside." May 11, 2014. Banbury Center, Cold Spring Harbor, NY.
- 2014 Symposium Co-Chair: "OCD: Neurophysiological Markers and New Brain Stimulation Treatments." May 8, 2014. Society for Biological Psychiatry Annual Meeting, New York, NY.
- 2014 KeyNote Speaker, Harvey Stancer Research Day, University of Toronto Department of Psychiatry June 19, 2014, Toronto, Canada
- 2014 KeyNote Speaker, Experimental Program to Stimulate Competitive Research (EPSCoR) - Nebraska Research and Innovation conference. Sept 24, 2014, Omaha, NE.
- 2013 Burroughs Wellcome Fund (BWF) Investment Committee and Board of Directors' Meeting, Research Triangle Park, NC, October 23-24, 2013. "Biology of Mental Health"
- 2013 5th International Conference on Non-invasive Brain Stimulation invited speaker "TMS in Anxiety Disorders." March 20, 2013, Leipzig, Germany.
- 2013 RO Jones Memorial Lecturer, Dalhousie University, Halifax, June 12, 2013
- 2013 RO Jones Memorial Lecturer, Atlantic Provinces Psychiatric Association, Prince Edward Island, June 14, 2013
- 2013 Visiting professorship at Duke-NUS Graduate Medical School, Singapore, July 9, 2013. "Magnetic Seizure Therapy: Translational Development of a Novel Device-Based Intervention."
- 2012 Symposium Co-Chair and Invited Speaker, Second Workshop on Synaptic Plasticity from Bench to Bed Side. "Synaptic Plasticity and Seizure Therapy." Sept 29 – Oct 1, 2012, Taormina, Italy.
- 2012 Visiting Professor, Virginia Tech Carilion Research Institute, "Translational Development of Noninvasive Brain Stimulation Treatments for Depression" March 29-30, 2012
- 2012 NIMH Brain Camp. "Innovations in Brain Stimulation: Game Changer for Clinical Neuroscience." March 16-17, 2014. Banbury Center, Cold Spring Harbor, NY.

- 2012 Keynote Speaker. "Update on Brain Stimulation Treatment Options for Depression." American Medical Women's Association (AMWA) 97<sup>th</sup> Annual Meeting, April 13-14, 2012, Miami, Florida
- 2012 Samuel B. Guze Lecture, Washington University. "Translational Development of Noninvasive Brain Stimulation for Depression" Jan 10, 2012. St. Louis, MO.
- 2011 Dynamical Neuroscience XIX: Deep brain stimulation in mental illness, neurological disorders and cognitive impairment. "Not so Deep" Brain Stimulation: Non-surgical alternatives for treatment resistant depression. November 10, 2011. Satellite Symposium to Society for Neuroscience annual meeting. Washington DC.
- 2011 Invited Distinguished Psychiatrist Lecture. "Electrifying Psychiatry: What Wilder Penfield, James Maxwell, and Ugo Cerletti Have in Common." 164<sup>th</sup> Annual Meeting of the American Psychiatric Association Meeting, May 17, 2011, Honolulu, Hawaii.
- 2011 Keynote Speaker. "Brain Stimulation: Key Challenges Facing Psychiatry and Neurology." 2011 Annual Meeting of the Association for Research in Nervous and Mental Diseases (ARNMD)
- 2011 American Psychiatric Association NIMH Research Track Symposium: Research Update – New Developments in the Treatment of Mood Disorders. "Magnetic approaches to depression: TMS and MST." May 16, 2011. Honolulu, Hawaii.
- 2010 Invited Lecturer. Australian ECT National Program. Sydney, Australia. March 25-26, 2010.
- 2010 Invited lecturer, NYU/Bellevue Psychopharmacology Annual Review. "When to refer to TMS, ECT or VNS." March 6, 2010. New York, NY.
- 2009 Cognitive Neuroscience Treatment Research to Improve Cognition in Schizophrenia (CNTRICSII): Evaluating Potential Biomarkers of Cognitive Function. "Network—dependent facilitation of cognitive task performance with rTMS." Oct 29, 2009. Maritime Institute of Technology, Linthicum Heights, Maryland.
- 2009 Invited speaker. "Physiological Optimization of TMS Parameters with cTMS and MST." 9<sup>th</sup> World Congress of Biological Psychiatry, Paris, France, June 28-July 2, 2009.

- 2009 Symposium presenter. "Progress Report – Revising the APA Task Force Report on ECT," and "Hot Topics in TMS." 19<sup>th</sup> Annual Meeting of the Association for Convulsive Therapy (ACT). May 17, 2009. San Francisco, CA.
- 2008 Invited lecturer, the Third International Symposium on Transcranial Stimulation, Göttingen, Germany.
- 2008 Visiting Professor, Charité-University Medicine Berlin Campus Benjamin Franklin, Berlin, Germany. October 6, 2008.
- 2008 Simons Foundation Experimental Therapeutics meeting. "Roles for Noninvasive Neuromodulation in the study and treatment of autism. December 2, 2008, New York, NY
- 2008 Present and future of rTMS in Neurology and Psychiatry. Safety and Ethical Guidelines. Certosa di Pontignano, Siena, Italy
- 2007 Kinetics Foundation Workshop: Integration of minimally invasive energy transfer modalities for Parkinson's Disease. "ECT, TMS and MST: Approaches for Parkinson's Disease." July 14, 2007. Palo Alto, CA
- 2006 Symposium Co-Chair and Presenter. "rTMS in Treatment: Review of the Mechanisms." Symposium at the 28<sup>th</sup> International Congress of Clinical Neurophysiology (ICCN) Annual Meeting, Edinburgh, UK. September 12, 2006.
- 2004 Invited Panelist. "Improving the Delivery of Seizure Therapies." Panel 6: Somatic Treatments for Mental Disorders: Current Status and Future Directions. International College of Neuropsychopharmacology (CINP) Annual Meeting. Paris, June 3, 2004.
- 2004 Symposium Chair. "ECT Versus TMS for the Treatment of Depression: Contrasting Efficacy and Side Effects." Association for Convulsive Therapy (ACT) Annual Meeting, May 2, 2004, New York, NY.
- 2003 Invited lecturer, the Second International Symposium on Transcranial Magnetic Stimulation, Göttingen, Germany.
- 2002 Symposium Chair. "New Developments in Brain Stimulation." 12<sup>th</sup> Annual Meeting of the Association for Convulsive Therapy (ACT). May 19, 2002, Philadelphia, PA.
- 2001 Symposium Chair. "New Developments in Treatment Technique: Magnetic Seizure



Therapy.” 11<sup>th</sup> Annual Meeting of the Association for Convulsive Therapy (ACT).  
May 6, 2001, New Orleans, LA.

- 1999 Invited lecturer, University of Hokkaido, Sapporo, Japan.
- 1998 Invited lecturer, NYU/Bellevue Psychopharmacology Annual Review. March 7, 1998.  
“Transcranial Magnetic Stimulation: The Next ECT?.” New York, NY.
- 1998 Invited lecturer, the First International Symposium on Transcranial Magnetic  
Stimulation, 1998 German Neurophysiological Society annual meeting, Göttingen,  
Germany.
- 1997 Invited lecturer, the Inaugural International Conference on Transcranial Magnetic  
Stimulation, Interlaken Switzerland.
- 1997 Invited lecturer, Transcranial Magnetic Stimulation Course, Beth Israel Deaconess  
Medical Center, Harvard Medical School, Boston, MA.

#### Journal Editorial Board Memberships

- 2000-present Journal of ECT
- 2001-2015 International Journal of Neuropsychopharmacology
- 2006-2015 Brain Imaging and Behavior
- 2006-2015 International Journal of Geriatric Psychiatry
- 2009-2015 CNS Spectrums

#### Journal Guest Editor

- Special issue of *Depression and Anxiety* on ECT and TMS, 2000.
- Biological Psychiatry*, 2002.
- Special issue of *Journal of ECT* on TMS, 2009

#### Journal Peer Reviewer (selected)

Archives of General Psychiatry  
American Journal of Geriatric Psychiatry  
American Journal of Psychiatry  
Biological Psychiatry  
Bipolar Disorders  
Cerebral Cortex  
Depression and Anxiety  
Epilepsia  
International Journal of Neuropsychopharmacology  
Journal of ECT  
Journal of Neural Transmission,  
Journal of Neuroscience  
Journal of Psychiatric Research  
Proceedings of the National Academy of Sciences  
Progress in Neuro-psychopharmacology & Biological Psychiatry  
Psychiatry Research  
Science

## Grant Support

Summary: Cumulative NIH Awards as an extramural PI in Total Costs = \$10,157,888  
Active grants at time of recruitment to NIH: PI of an active U01, R01, NIMH Contract, 2  
Foundation Awards, co-I on 2 R01s, and mentor to 2 NARSAD Young Investigator Awards  
and 2 K Awards

## CURRENT

1ZIAMH002955 (PI: Lisanby)

10/2015 – present

Noninvasive Neuromodulation Unit (NNU)

\$4,562,464

NIMH

The mission of the NNU in the NIMH Intramural Research Program is to advance precision neuromodulation in psychiatry by optimizing the key elements of dosing: spatial targeting, temporal tuning, and context/state dependency.

ACTIVE AT TIME OF RECRUITMENT TO NIH, Oct 2015

U01 MH084241 (Multiple PIs: Lisanby-Contact PI, and Weiner)

7/1/09-3/31/16

Role: Contact PI for Duke site, and overall U01 Multiple PI

\$1,608,160

NIMH

Prolonging Remission in Depressed Elders (PRIDE)

This multi-center randomized clinical trial of patients with late-life depression examines the efficacy, functional outcomes, and tolerability of two strategies to sustain antidepressant effect after successful acute treatment.

R01 MH091083-01 (MPIs: Lisanby-Contact PI, and Peterchev)

7/1/10-12/31/2016

Role: Contact PI

\$1,971,652

NIMH

Rational Dosing for Electric and Magnetic Seizure Therapy

This translational project will develop a novel framework to optimize the dosing of seizure therapies for the treatment of medication resistant disorders, using computational modeling and preclinical studies in nonhuman primates.

NIMH FAST-MAS Contract (PI: Krystal, Duke Site PI: Lisanby)

9/24/2012 – 9/23/2015

Role: PI for Duke Site

New Experimental Medicine Studies: Fast-Fail Trials in Mood and Anxiety Spectrum Disorders (FAST-MAS)

This contract will establish a small group of clinical trial sites that will focus on identifying and testing promising pharmacological interventions for the treatment of mood and anxiety spectrum disorders. "Fast-Fail" trials, spanning a range that may include First in Human, Proof of Clinical Mechanism, or Proof of Concept trials in adults are anticipated. NIMH anticipates that the majority of trials conducted under the FAST-MAS initiative will be early phase clinical trials (i.e., FIH, Phase IIa).

NIH HHS 271201200006I (PI: Krystal)

08/29/13-06/28/16

Role: PI Duke site

FAST-MAS Phase 2A - Duke Site

Fast-Fail Trials in Mood and Anxiety Spectrum Disorders (FAST-MAS)

The overall goal of this project is to determine whether kappa opioid receptor (KOR) antagonism has utility as a treatment for patients with mood and anxiety spectrum disorders.

R01 AG050618 (PI: Luber)

08/15/15-08/14/20

Role: Co-Investigator

NIA

Title: Using fMRI-guided TMS to increase central executive function in older adults.

Goal: To engage the working memory system in the brain using TMS, and to create long-lasting improvements in working memory deficits (and related cognitive processes) in older adults.

R01 NS088674-01 (MPIs: Peterchev and Sommer)

8/2014-6/30/2019

Role: Co-Investigator

NINDS

Rational design of TMS for Neuromodulation

This project will fill key gaps in knowledge about exactly how TMS affects neuronal activity, using a novel repertoire of tools and techniques that permit us to manipulate the TMS stimulus parameters, model the resulting electromagnetic fields and neuronal responses, and record from cerebral neurons while TMS is applied.

Stanley Medical Research Institute (Overall PI-Loo; Duke Site PI-Lisanby) 8/1/2012 -7/31/2015

Role: PI, Duke Site

Transcranial direct current stimulation (tDCS) for the treatment of depression

tDCS is a novel treatment approach for depression that has shown promising efficacy in four recent double-blind, randomized, sham-controlled trials (RCT) and a meta-analysis. This proposal is to conduct a sham-controlled RCT of tDCS in depressed patients, testing its efficacy in both unipolar and bipolar depression. As a potential new brain stimulation treatment, tDCS has excellent potential for translation into widespread clinical use, being relatively inexpensive, easy to use, painless, and based on currently available evidence, safe.

2010 NARSAD Distinguished Investigator Award (PI= Lisanby) 5/1/10-4/30/15

Role: PI

NARSAD

\$100,000

Noninvasive Focal Deep Brain Stimulation

This project evaluates the feasibility of using anatomical and functional connectivity measures to noninvasively activate focal deep brain targets for depression treatment.

NARSAD Young Investigator Award 1/2016 – 2/2019

(PI: Neacsiu; Mentors: Lisanby, Rosenthal, LaBar)

Brain & Behavior Foundation

This project employs TMS-enhanced cognitive restructuring to target fronto-amygdalar circuitry implicated in emotional dysregulation in a transdiagnostic sample.

NARSAD Young Investigator Award (PI: Goetz) 1/2016 – 2/2018

Role: Mentor

Brain & Behavior Foundation

Characterization and Optimization of Noninvasive Neuromodulation in Prefrontal Cortex

The aims of this project are to study systematically how the temporal parameters of rTMS affect

neuromodulation in DLPFC, and how to optimize these parameters for enhanced neuromodulatory effect, via single unit recordings in awake behaving nonhuman primates receiving TMS with a specially designed coil to permit artifact-free recording of single unit activity during stimulation.

Research Incubator Awards (Cabeza, Luber, Lisanby)

7/1/12-6/30/16

Duke Institute for Brain Sciences

Using TMS to enhance frontal and memory functions in older adults: cross-hemispheric connectivity and persistence of enhancement

NIMH K23 (PI: McClintock, co-Mentors: Lisanby, Husain)

7/1/10-6/30/16

\$667,559

Translational Research Evaluating Neurocognitive Memory Processes (TREC-MP)

The objective of this career development award is for the candidate to become a proficient translational neurocognitive scientist. The long-term goal is for this translational neurocognitive research to provide a clearer understanding of the cognitive component processes that underscore cognitive functional impairments in order to develop targeted treatment interventions.

K23 MH090783 (PI: Rowny)

12/31/10-12/31/15

Role: Mentor

NIMH

Improving Outcomes in Geriatric Depression: Magnetic Seizure Therapy

This work will shed light on the mechanisms of action of the most effective treatment for depression, providing the first test of whether regional differences in the neural response to seizures result in differential clinical effects of depression and cognitive function.

NexStim (PI: Goldstein, Co-I: Lisanby)

7/1/2014-7/1/2016

Role: Co-investigator

NICHE Trial: Navigated Inhibitory rTMS to Contralesional Hemisphere Trial

Pivotal Phase III, Prospective, multi-center, double-blinded, randomized, sham-controlled trial to determine

the therapeutic effects of navigation guided 1 Hz rTMS administered to the contralesional hemisphere as an adjuvant to task-oriented rehabilitation in patients with ischemic or hemorrhagic stroke.

Brainsway

8/1/2012 -7/31/2015

Role: Co-Principal Investigator

A Prospective Multicenter Double Blind Randomized Controlled Trial to Explore the Tolerability, Safety and Efficacy of the H-Coil deep Transcranial Magnetic Stimulation (TMS) in Subjects with Bipolar Depression

The aim of the study is to evaluate the efficacy and safety of H1-Coil deep brain rTMS in subjects with bipolar depression, taking mood stabilizers and previously unsuccessfully treated with antidepressant medications. The study is a randomized, prospective, 8 week, double blind, multicenter study.

#### PRIOR FUNDING

U01AG050618 (Role: Steering Committee, PI: Cabeza/Appelbaum)

08/15/15-08/14/20

Using fMRI-guided TMS to increase central executive function in older adults.

This project aims to engage the working memory system in the brain using TMS, and to create long-lasting improvements in working memory deficits (and related cognitive processes) in older adults.

NARSAD Young Investigator Award (PI: Deng; Mentor: Lisanby)

1/2018 – 2/2020

Individualized Low Amplitude Seizure Therapy (iLAST)

This project seeks to develop a rationally-designed, individualized, and targeted seizure therapy paradigm for the treatment of depression that maximizes clinical efficacy and minimizes cognitive side effects.

NARSAD Young Investigator Award (PI: Balderston; Mentors: Lisanby, Grillon)

1/2019 – 2/2021

Brain & Behavior Foundation

Development of a novel, fMRI-guided, sham-controlled, anxiolytic rTMS protocol in a translational laboratory model of anxiety in healthy individuals

5R01MH035636 (co-Investigator=Lisanby; PI=Sackeim)

7/1/95-3/1/05

10% effort

NIMH

Total Costs \$2,822,615

Affective and Cognitive Consequences of ECT

This randomized controlled trial contrasted the efficacy and side effects of various forms of ECT.

T32 MH15144 (Principal Investigator=Rieder)

7/1/95-12/1/98

80% effort

NIMH

\$33,012

Post Doctoral Clinical Fellowship in Affective and Related Disorders

This post doctoral clinical fellowship supported my research training in a combination of interventional (ECT, rTMS), neurophysiological, neuroanatomical, and neuroimaging (PET) skills which were applied in integrated nonhuman primate and human investigations, focused on the neurobiology of emotion.

Established Investigator Award (co-Investigator=Lisanby; PI=Sackeim)

5/1/96-4/30/98

10% effort

NARSAD

\$100,000

Focal Magnetic Brain Stimulation: Development of a New Treatment

This project involves development of a new rapid-rate magnetic stimulation device and evaluating its potential to induce focal seizures in primates, including measures of intracerebral current density.

Frontier Fund (co-Investigator=Lisanby; PI=Luber)

5/1/96-4/30/97

5% effort

New York Research Foundation for Mental Hygiene

\$5,000

The neural basis of backward masking deficits in schizophrenia

This protocol employs the focal intervention of TMS to study aspects of visual information processing



deficits in patients with schizophrenia.

PIRSG (Principal Investigator=Lisanby)

5/1/96-4/30/99

5% effort

New York Research Foundation for Mental Hygiene

\$5,000

Safety of Rapid-Rate Transcranial Magnetic Stimulation (rTMS) in Normal Volunteers

This protocol systematically studies the physiological and neuropsychological effects of rTMS in normal volunteers to investigate the safety of this technique to study and treat psychiatric disorders.

NARSAD Young Investigator Award (Principal Investigator=Lisanby) 7/1/96-6/30/99

National Alliance for Research on Schizophrenia and Depression

\$60,000

The Neurobiology of Emotional Processing and the Treatment of Mood Disorders: Transcranial Magnetic Stimulation Studies

This project involves the establishment of reliable methods for using rTMS to probe the processing of emotional information and to alter mood in normal volunteers and patients with major depressive disorder.

R01 MH55646:01 (co-Investigator=Lisanby; Principal Investigator=Sackeim) 1/1/97-12/31/01

As needed

NIMH

\$ 311,268

Cerebrovascular Abnormalities in Late-Onset Depression

This longitudinal project involves investigation of cerebral perfusion and metabolism deficits (PET) and structural deficits (MRI) in patients with late-onset major depression treated with sertraline. My role is to coordinate all aspects of the clinical conduct and imaging procedures in the study.

Research Grant (co-PI=Lisanby; Principal Investigator=Sackeim)

7/1/97-6/30/99

25% effort

Magstim Company Ltd

\$100,000

Augmentation of antidepressant medication with rapid-rate transcranial magnetic stimulation.

This randomized, controlled, blinded, two-center study examined the utility of 2 weeks of TMS as an augmentation strategy for sertraline therapy of major depressive disorder.

Research Grant (co-PI=Lisanby; PI=Sackeim)

7/1/97-6/30/99

25% effort

Pfizer Inc.

\$100,000

Augmentation of antidepressant medication with rapid-rate transcranial magnetic stimulation.

This randomized, controlled, blinded, two-center study examined the utility of 2 weeks of TMS as an augmentation strategy for sertraline therapy of major depressive disorder.

K08 MH01577 (Principal Investigator=Lisanby)

12/1/98-11/30/03

75% effort

NIMH

\$730,600

Neurobiology of Emotional Processes: rTMS Studies

This Mentored Clinical Scientist Development Award involves the establishment of reliable methods for using rTMS to probe the neural circuits regulating mood in normal volunteers. It also involves the use of pre-clinical models to validate the use of repetitive transcranial magnetic stimulation (rTMS) in the study of brain-behavior relationships.

R01 NS38636 (co-Investigator=Lisanby; Principal Investigator=Fallon)

4/1/99-3/31/03

As needed

NINDS

\$3,111,690

PET and MRI Imaging of Persistent Lyme Encephalopathy

This study examines cerebral blood flow and metabolism deficits that characterize Lyme's disease.

R01 MH60884-01 (Principal Investigator=Lisanby)

12/1/99-11/30/03

20% effort

NIMH

\$1,031,002

Magnetic Stimulation Therapy: A New Convulsive Treatment

This project employs an animal model (rhesus monkey) to establish the feasibility and safety of magnetic seizure induction as a novel convulsive treatment, and compare its cognitive, physiological, and neuropathological effects with electroconvulsive shock (ECS).

Clinical Trials Award (Principal Investigator=Lisanby)

7/1/00-7/1/01

5% effort

Columbia University

\$50,000

Magnetic Stimulation Therapy (MST): Feasibility of a novel convulsive technique

The aims of this first clinical trial of MST in the human are to demonstrate the feasibility of magnetic seizure induction (MST) as an alternative to ECT and to compare the acute cognitive side effects of MST and conventional ECT.

Unrestricted Grant (Awardee=Lisanby)

7/1/00-7/1/01

APA/SmithKline Beecham

\$11,667

APA/SmithKline Beecham Award 2000 Awardee

Cure Autism Now (Principal Investigator=Lisanby)

3/1/01-3/1/02

As needed

New York Research Foundation for Mental Hygiene

\$5,000

Low frequency transcranial magnetic stimulation in the investigation of self awareness in adults with Asperger's disorder.

The goal of this project is to test the utility of TMS delivered to the right prefrontal cortex in improving symptoms of autism and in various aspects of self awareness and self recognition.

Frontier Fund (Faculty sponsor=Lisanby; Principal Investigator=Matthews) 5/1/01-4/30/02

As needed

New York Research Foundation for Mental Hygiene

\$5,000

Motion Perception in Schizophrenia

We have used TMS to the human area MT to selectively disrupt aspects of motion perception (speed and direction discrimination) in normal volunteers. We now extend this work to study the neurobiology underlying motion perception abnormalities in schizophrenia.

PIRSG (Faculty sponsor=Lisanby; Principal Investigator=Moscip) 5/1/01-4/30/02

As needed

New York Research Foundation for Mental Hygiene

\$5,000

Cognitive side effects of TMS and ECS

The goal of this project is to develop cognitive tasks in the rhesus monkey to assess anterograde and retrograde amnesic effects of magnetically and electrically induced seizures.

Stanley Foundation Research Grant (Principal Investigator = Lisanby) 8/1/01 - 7/31/05

As needed

Stanley Foundation

\$150,000

Magnetic Seizure Therapy (MST) for the Treatment of Depression: A Pilot Randomized Trial

This study tests the comparative efficacy and side effects of three different forms of MST (with various coil placements) in a randomized double-masked controlled trial to identify the MST method with the best

efficacy/side effect tradeoff.

John F. Kennedy Institute, Denmark (Principal Investigator=Lisanby) 9/1/01-9/1/07

As needed

\$75,000

TMS studies of self-awareness

Supported the sabbatical work of Professor Hans Lou, and continuing collaboration with him, on the roles that lateral prefrontal and parietal brain regions play in performing tasks that measure aspects of self-awareness.

Research Grant (Principal Investigator of NYSPI site=Lisanby; co-PI of project=Lisanby, PI of project=Stern) 4/1/02-8/31/03

15% effort

Department of Defense: Defense Advanced Research Projects Agency (DARPA)

\$1,052,024

FMRI/TMS Approaches To Enhancing Performance During Sleep Deprivation

This multi-project program employs convergent methods to identify and remediate the effects of sleep deprivation on aspects of cognitive performance. The TMS core utilizes TMS as a probe of networks identified with fMRI, and as a tool to alter network expression for desired behavioral outcomes.

R21 MH066748 (co-Investigator=Lisanby; Principal Investigator=Gorman) 7/1/02-6/30/04

As needed

NIMH

\$300,000

Neural circuitry of social behavior in bonnet macaques

This project explores the fundamental neurobiology of social behavior using a primate animal model.

NARSAD Young Investigator Award (Mentors= Lisanby, Dwork, PI=Ilievski) 7/1/02-6/30/05

As needed

NARSAD

\$60,000

Golgi Studies of Electroconvulsive and Magnetically-Induced Seizures

This project examines the role of dendritic changes in the hippocampus in the mechanism of action of convulsive therapy (both conventional electrical seizure induction and magnetic seizure therapy (MST)) in the rhesus monkey model.

Beeson Physician Faculty Scholars in Aging Research Program (PI=Lisanby) 4/1/03-3/31/08

10% effort

TDC \$450,000

American Federation for Aging Research

Brain Stimulation and Pharmacological Strategies to Reduce the Cognitive Side Effects of ECT in Geriatric Depression

This project studies the use of magnetic seizure therapy, along with anticholinergic agents, as strategies to reduce the cognitive side effects of ECT in the elderly population.

NARSAD Young Investigator Award (PI=Waterhouse; Col=Lisanby)

7/1/03-6/30/05

\$58,902

PET Assessment of the effect on gonadal hormones on stimulated dopamine release in humans.

NIMH T32 (Principal Investigator=Roose; Faculty Mentor =Lisanby)

7/1/03 – 6/30/10

Annual TDC\$278,912; Total Costs \$299,579; Project \$2,403,526

Clinical Research Training in Geriatric Psychiatry

Preceptor for postdoctoral fellowship program in geriatric psychiatry.

NARSAD Independent Investigator Award (PI=Lisanby)

8/1/03-8/1/05

5% effort

National Alliance for Research in Schizophrenia and Depression

\$100,000

Magnetic seizure therapy for the treatment of major depression

This project supports a randomized clinical trial on the antidepressant efficacy of two forms of MST.

Research Grant (Principal Investigator = Lisanby)

9/1/03-9/1/04

As needed

John F. Kennedy Institute, Denmark

\$15,000

TMS studies of self-awareness

This grant will support the sabbatical work of Professor Hans Lou on the topic of the roles that lateral prefrontal and parietal brain regions play in performing tasks that measure aspects of self-awareness.

Research Grant (Principal Investigator =Lisanby)

11/13/03-11/13/08

5% effort

Neuronetics

TDC \$242,515

Randomized controlled trial of rTMS in patients with major depression

This is a 16-center randomized controlled trial of the antidepressant efficacy of repetitive transcranial magnetic stimulation (rTMS) in the treatment of unipolar major depression. The results of this pivotal trial will be submitted to FDA to determine whether rTMS can be approved for the treatment of depression.

NIMH 2R01 MH60884-05 (Principal Investigator=Lisanby)

12/1/03-3/31/11

20% effort

TDC \$1,945,128

Magnetic Stimulation Therapy: A New Convulsive Treatment

This project is a competitive renewal of MH60884-04. This project employs an animal model (rhesus monkey) to establish the feasibility and safety of magnetic seizure induction as a novel convulsive treatment, and compare its cognitive, physiological, and neuropathological effects with electroconvulsive shock (ECS).

Unrestricted Grant (PI=Lisanby)

4/1/04-9/1/05

As needed

Magstim Company Ltd

\$25,000

Magnetic Seizure Therapy (MST) for the Treatment of Depression: A Pilot Randomized Trial

This study tests the comparative efficacy and side effects of three different forms of MST (with various coil placements) in a randomized double-masked controlled trial to identify the MST method with the best efficacy/side effect tradeoff.

NIMH T32 (PI: Salzman; Faculty Mentor: Lisanby)

7/7/04-6/30/09

Total Cost: \$2,698,032

Research Training: Affective and Related Disorders

This is a postdoctoral research training grant on which I serve as a faculty mentor.

NIH Predoctoral Fellowship (PI: Moscrip; Mentors: Lisanby & Terrace)

1/1/04-12/31/05

\$45,436

Neurocognitive Effects of Convulsive Therapy in Primates

This was a predoctoral fellowship to support the doctoral thesis work for Tammy Moscrip, leading her PhD in Experimental Psychology mentored by Drs. Lisanby and Terrace.

NIMH R01 MH069895-01 (Principal Investigator=Lisanby)

9/15/04-5/31/10

20% effort

TDC \$1,329,809

Optimization of TMS for Depression

This is a Clinical Site Grant (CSG). This proposal is a 4-yr, 4-site, randomized sham-controlled trial of daily left prefrontal repetitive transcranial magnetic stimulation (rTMS) for the acute treatment of major depression.

Research Grant (Principal Investigator=Lisanby)

1/1/05-10/31/11



5% effort

Total Cost \$490,500

Department of Defense: Defense Advanced Research Projects Agency (DARPA)

From the Lab to the Field: Transcranial Direct Current Stimulation for Memory Enhancement

This pilot project tests whether the new noninvasive modality of direct current polarization, which has been shown to potentiate firing rates and enhance verbal fluency, can enhance working memory in normal volunteers, and whether it can remediate the effects of sleep deprivation. It also tests other means of taking brain stimulation out of the traditional laboratory setting, including testing whether the brain effects of TMS are amenable to classical conditioning.

Research Grant (coPIs: Lisanby, Stern)

1/1/05-10/31/11

Total Cost \$637,000

Department of Defense: Defense Advanced Research Projects Agency (DARPA)

Effect of Sleep Deprivation on fMRI-Measured Cognitive Networks

This CU Psychiatry subcontract from the Sergievsky center DARPA funded program investigates the use of fMRI-guided TMS to modulate sleep deprivation sensitive working memory networks to remediate performance. The project also supports the implementation of simultaneous fMRI/TMS to study network modulation on-line.

Research Grant (Principal Investigator=Lisanby)

1/1/05-1/1/10

5% effort

Department of Defense: Defense Advanced Research Projects Agency (DARPA)

\$200,000

Deception Disruption

This pilot project tests whether TMS can disrupt performance on tasks of simulated deception when applied to circuits identified via fMRI to be central to the ability to inhibit truthful responses.

Medical Research Council Brain Sciences II (PI=Ebmeier)

4/1/05 – 4/1/08

As needed

151,796 Pounds

Reducing adverse ECT effects on memory by magnetic stimulation

This study examines the relative safety and efficacy of MST and ECT in the community setting in ECT centers in Scotland.

NARSAD Young Investigator Award (PI=Scalia; co-Mentor=Lisanby) 7/1/05-7/1/07

\$60,000

The Neurobiology of Depressive Disorder: Hippocampal Neurogenesis and Serotonin Replacement Therapy in Human Brain

This study uses doublecortin as a measure hippocampal neurogenesis in brains from three groups: individuals diagnosed with major depressive disorder (MDD) and not on antidepressants; those diagnosed with MDD who received SSRI therapy; and non-psychiatric controls. We will thus determine whether individuals who suffered from MDD experienced a deficit in hippocampal neurogenesis and whether SSRI therapy effectively corrected this deficit.

NARSAD Young Investigator Award (PI=Berman; Mentors=Lisanby, Sackeim) 7/1/05-7/1/07

\$60,000

Novel methods of focal brain stimulation: Preclinical characterization and a pilot study for depression  
As needed

This study contrasts electrical and magnetic approaches to focal brain stimulation using intracerebral electrode studies in rhesus monkey.

NARSAD Young Investigator Award (PI= Narendran; co-Mentor=Lisanby) 7/1/05-7/1/07

\$60,000

Probing the connectivity between the dorsolateral prefrontal cortex (DLPFC) and striatum in schizophrenia  
This study will investigate the functioning of the connection between the prefrontal cortex and the striatum first in healthy subjects and then in patients with schizophrenia, using rTMS and raclopride PET.  
Understanding the abnormalities in this connection may lead to better treatment for schizophrenia.

Research Grant (Principal Investigator=Lisanby)

1/1/06-1/1/09

as needed

Cyberonics

Intracortical inhibition following VNS for the treatment of depression

\$267,375

This study uses paired pulse TMS to examine the effects of VNS on measures of GABAergic activity in patients with depression.

Research Grant (Principal Investigator=Lisanby)

1/1/06-1/1/11

Cyberonics

Treatment Resistant Depression Patient Registry Study

\$150,000

This study follows patients receiving VNS or treatment as usual and tracks their long-term outcomes.

Research Grant (Principal Investigator=Lisanby)

1/1/06-11/25/10

Cyberonics

Randomized trial of different levels of electrical charge in VNS treatment of depression (D21 study)

\$185,664

This study contrasts the antidepressant efficacy of 3 dosages of VNS in the treatment of medication resistant depression.

Research Grant (Principal Investigator=Kegeles; Co-PI=Lisanby)

1/1/06-1/1/09

as needed

Dana Foundation

Mapping abnormal excitatory and inhibitory neurochemical circuitry in schizophrenia with MRS and rTMS

\$100,000

This study uses different frequencies of rTMS as probes to examine GABA and glutamate activity in prefrontal cortex of patients with schizophrenia, measured by MRS.

NIH Loan Repayment Program (PI-Stanford; Mentor-Lisanby) 2006-2010

This is a loan repayment grant to Dr. Stanford for her mentored research in Dr. Lisanby's lab.

Research Grant (Principal Investigator =Lisanby) 4/1/06-4/1/07

5% effort

Neuronetics

TDC \$200,000

Compassionate use of rTMS for the treatment of Depression

This study examines the use of repeat application of rTMS in patients with depression who have previously responded to TMS.

NIDA Administrative Supplement to R01 MH069895-01 6/1/06-5/21/09

Total Project Cost: \$300,000; CU Sub-contract \$47,745

This administrative supplement examines the impact of prefrontal rTMS on craving and measures of nicotine utilization.

NARSAD Young Investigator Award (Mentor= Lisanby, PI= Bulow) 7/1/06-6/30/09

NARSAD

\$60,000

Transcranial Direct Current Stimulation for the Treatment of Depression

This project examines the antidepressant efficacy of direct current stimulation of the prefrontal cortex.

Janssen Translational Neuroscience Fellowship (PI-Stanford; Mentor-Lisanby) 7/1/06-6/30/07

\$75,000

Cognition and the D1R in Schizophrenia

This is a PET and TMS study of the role of dopamine receptors in cognitive functioning in schizophrenia, before and after treatment with TMS.

NY State Office of Science, Technology and Academic Research (NYSTAR) Faculty Development Award

(PI=Lisanby)

11/1/06-11/1/10

TDC \$750,000; Total Project Cost Share/Match: \$1,203,807

Shaping The Future of Therapeutic Neuromodulation

This project aims to advance the technology and application paradigms of electric and magnetic brain stimulation and neuromodulation, and facilitate its commercialization.

Lieber Center (PI-Lisanby)

4/1/07-6/31/10

TDC \$140,000

Working Memory Deficits: GABA to Gamma to Function – Part I

This is a two-part study utilizing TMS and MRS to examine the links between cortical GABA levels, gamma oscillations, and working memory function. Part I tests the impact of prefrontal rTMS on working memory function, gamma oscillations, and MRS GABA levels in schizophrenic patients.

Lieber Center (col-Lisanby; PI-Kegeles)

4/1/07-6/31/10

TDC \$140,000

Working Memory Deficits: GABA to Gamma to Function – Part II

This is a two-part study utilizing TMS and MRS to examine the links between cortical GABA levels, gamma oscillations, and working memory function. Part II examines normal volunteers to identify TMS paradigms that can manipulate gamma oscillations, and then tests the resultant impact on function and GABA levels using MRS.

NIH TRANSFORM K12 (Mentor-Lisanby; PI-Sporn)

1/1/07-12/31/09

TDC \$500,000

Neurocircuitry of Autism Spectrum Disorders: fMRI and TMS studies

This study employs TMS and fMRI to probe the neural basis of symptom clusters in autism spectrum disorders.

Research Grant (Principal Investigator=Lisanby)

1/1/07-1/1/10

Department of Defense: Defense Advanced Research Projects Agency (DARPA)

\$63,659 [Supplement to “From the Lab to the Field”]

TMS-Enhanced ‘Power-Nap”: A practical system for inducing slow oscillations during sleep

This pilot project will design a TMS coil that can be comfortably worn during sleep to augment slow wave oscillations duration sleep and hasten memory consolidation during TMS-augmented sleep.

Blum Foundation (PI-Lisanby)

3/1/07-no end date

\$12,000

Brain Stimulation Education Fund

This charitable donation from the Blum Foundation was designated to create an education fund to support a journal club and lecture series on brain stimulation topics in psychiatry.

NIMH T32 (Principal Investigator=Rieder; Mentor Faculty=Lisanby)

7/1/07-6/30/08

Annual TDC \$353,672; Annual Total Cost \$380,244

Schizophrenia Research Fellowship

Preceptor for postdoctoral fellowship program in schizophrenia research.

Tourette Syndrome Association (coPIs Lisanby and Leckman)

7/1/07-7/1/09

\$75,000

Transcranial magnetic stimulation for adults with severe Tourette Syndrome

This collaborative project between Columbia and Yale will use low frequency rTMS to the supplementary motor area for the study and treatment of medication resistant Tourette Syndrome.

Cure Autism Now Foundation (PI: Sporn; Mentor: Lisanby)

7/1/07-7/1/09

\$120,000

Transcranial magnetic stimulation (TMS) for the evaluation and treatment of repetitive behavior in subjects with autism spectrum disorders

This project couples TMS with fMRI to develop novel treatment approaches for specific symptom clusters in autism.

Frontier Fund (PI: Peterchev; Mentor: Lisanby)

7/1/07-12/31/09

\$10,000

Synchronization of TMS to electroencephalographic rhythms

This project will construct and test technology to synchronize TMS delivery to specific phases of endogenous oscillations.

Frontier Fund (PI: Mantovani; Mentor: Lisanby)

7/1/07-12/31/09

\$10,000

Neural Circuitry of Depersonalization Disorder: A TMS Study

This pilot project tests for the first time the potential value of TMS to temporal parietal cortex in the treatment of depersonalization disorder.

NBIB R21 EB005855 (coPI-Lisanby; PI-Peterchev)

7/1/07-07/01/09

TDC \$275,000

Development of A Novel TMS Device with Controllable Pulse Shape

This project will implement a novel TMS device with controllable pulse shape, with more physiologically efficient parameters.

CUNY Dissertation Enrichment Grant (PI-Ferrera; Mentors-Lisanby, Hirsch) 7/1/07 – 7/1/08

\$1,500

Mapping the eloquent language-sensitive brain using fMRI-guided rTMS

This study uses fMRI and rTMS to map language processing, with the goal of developing presurgical tools.

Policy Relevant Mental Health Services Research (PI: Prudic; col: Lisanby) 7/1/07-3/31/08

New York State Office of Mental Health

\$27,500

Electroconvulsive Therapy in Chronically Psychotic Patients: Towards Evidence Based Treatment

The goal of this project is to improve the quality of ECT care in the OMH system. First, we will review the evidence base for the efficacy of ECT in patients with chronic persistent mental illnesses. Second, we will

analyze the available data on ECT utilization within the OMH system. Third, we will develop quality indicators to capture variations in ECT service delivery linked to outcome in this population.

Pilot Study Award (PI: Stanford, col: Lisanby) 7/1/07-7/1/08

Irving Institute for Clinical and Translational Research

\$50,000

Neurocircuitry of Negative Symptoms of Schizophrenia: fMRI and TMS studies

This project uses fMRI to identify and TMS to probe neural circuitry involved in negative symptoms of blunted affect, amotivation, and anhedonia.

NARSAD Young Investigator Award (Mentor= Lisanby, PI= Mantovani) 7/1/07-6/30/10

National Alliance for Research on Schizophrenia and Depression

\$60,000

rTMS in the treatment of panic disorder with comorbid major depression

This project examines the antidepressant and antipanic efficacy of rTMS to the right dorsolateral prefrontal cortex.

NARSAD Young Investigator Award (Mentor= Lisanby, PI= Sporn) 7/1/07-6/30/10

National Alliance for Research on Schizophrenia and Depression

\$60,000

Genetic Predictors of Antidepressant Response to repetitive Transcranial Magnetic Stimulation (rTMS) in Treatment Resistant Depression

This project examines genetic polymorphisms that may predict antidepressant response to rTMS in unipolar depression.

NARSAD Young Investigator Award (Mentors= Lisanby, Arango, PI= Scalia) 7/1/07-6/30/09

National Alliance for Research on Schizophrenia and Depression

\$60,000

The effects of convulsive therapies for depression on the neuronal organization of the hippocampus



This project examines cell fate determination of new cells in dentate gyrus induced by electroconvulsive shock and magnetic seizure therapy in monkeys.

R21 MH082323 (PI: Leckman; PI of Columbia/NYSPI site: Lisanby) 10/1/07-10/1/10

\$145,365 CU Subcontract

Transcranial magnetic stimulation for adults with severe Tourette Syndrome

This collaborative project between Columbia and Yale will use low frequency rTMS to the supplementary motor area for the study and treatment of medication resistant Tourette Syndrome.

Advanced Neuromodulation Systems (PI-Lisanby) 3/20/08 -3/20/11

\$271,671

Clinical Evaluation for the Management of patients with major depressive disorder, single or recurrent episode, with deep brain stimulation

This study examines the antidepressant efficacy of deep brain stimulation (DBS) applied to Brodmann's 25.

Advanced Neuromodulation Systems (PI-Segal; Co-I: Lisanby) 10/30/08 -10/30/10

\$358,088

Brodmann Area 25 Deep Brain Stimulation (DBS) Elicits Dopaminergic and Serotonergic responses: Characterization of Biomarkers with Molecular imaging and a novel PET Ligand

This study uses PET to examine the mechanisms of action of DBS in the treatment of depression.

Janssen Translational Neuroscience Fellowship (PI-Segal; Mentors-Lisanby, Moore, Parsey)

7/1/08-6/30/09

\$75,000

Neurochemical effects of DBS to BA25: Translational studies in baboons and depressed patients

This study examines the mechanisms of action of DBS using microdialysis in baboons and PET in human.

TRANSFORM Translational Certificate Program (PI: Deng, Mentor: Lisanby) 7/1/08 – 6/30/09

NIH CTSA

\$42,172

Field Shaping and Coil Design for Transcranial Magnetic Stimulation (TMS).

Dissertation Supervisors: Drs. Shepard and Peterchev (Electrical Engineering)

TRANSFORM Translational Certificate Program (PI: Yu, Mentor: Lisanby) 7/1/08 – 6/30/09

NIH CTSA

\$42,172

Dissertation Supervisor: Dr. Sulzer (Psychiatry, Neurology, and Pharmacology)

CTSA Pilot Study Award (PI: Rowny, co-I: Lisanby) 7/1/09-7/1/10

Irving Institute for Clinical and Translational Research

\$10,000

Functional neuroanatomy changes during ECT vs. MST in geriatric depression

This project will shed light on the mechanisms of action of convulsive therapy, providing the first test of whether regional differences in the neural response to seizures results in differential clinical effects on depression and cognitive function.

Research Grant (PI=Chen; CoI=Lisanby) 1/01/10-6/30/10

Irving Institute Imaging Pilot Award

GABA, neuronal synchrony, and neurocognitive efficiency in schizophrenia

The aim of this study is to further our understanding of the pathophysiology of schizophrenia and to identify novel therapeutic targets for remedying cognitive deficits.

Diversity Award (PI: Friel, Mentor: Lisanby) 5/1/10-4/30/11

Columbia University

\$20,000

Magnetic Resonance Imaging of the Motor and Somatosensory Systems in Children with Cerebral Palsy and Healthy Controls

2010 Pisetsky Award (PI: Chen, Mentor: Lisanby)

5/14/10-5/14/11

\$7,000

Investigation and treatment of auditory/verbal hallucinations in schizophrenia: a combined TMS-EEG approach

This pilot will test whether connectivity between Broca's area and auditory cortex is abnormal in schizophrenia.

NARSAD Young Investigator Award (PI= Stanford; Mentor=Lisanby) 7/1/05-7/1/11

\$60,000

As needed

Restoring function: Repetitive transcranial magnetic stimulation for the negative symptoms of schizophrenia

This sham-controlled randomized clinical trial will examine whether rTMS can be of clinical benefit in treating negative symptoms in schizophrenia patients, with a special emphasis on social dysfunction.

NARSAD Young Investigator Award (Co-Mentor=Lisanby, PI= McClintock) 7/1/08-6/30/11

National Alliance for Research on Schizophrenia and Depression

\$60,000

Neuropsychological associated effects of magnetic seizure therapy (MST)

This project examines the neuropsychological profile of MST versus ECT in the treatment of major depressive episodes.

NARSAD Young Investigator Award (PI: Segal, co-Mentors: Lisanby, Parsey) 7/1/09-7/1/11

National Alliance for Research on Schizophrenia and Depression

\$60,000

Brodmann Area 25 directed deep brain stimulation for the treatment of major depression disorder:

Neurocircuitry studies

Receptor PET will be used to examine the impact of DBS to BA25 on DAergic and 5-HTergic systems implicated in depression.

NARSAD Independent Investigator Award (PI: Prudic, col: Lisanby) 9/15/09-9/14/11

National Alliance for Research on Schizophrenia and Depression

\$100,000

Cognitive Remediation to Improve Functional Outcomes Following Depression Treatment

This project examines a novel cognitive remediation protocol specifically designed to mitigate the adverse cognitive side effects of ECT.

NARSAD Young Investigator Award (PI: Rowny, Mentor: Lisanby) 1/1/10-12/31/11

National Alliance for Research on Schizophrenia and Depression

\$60,000

Functional neuroanatomy changes during ECT vs. MST in geriatric depression

This project will shed light on the mechanisms of action of convulsive therapy, providing the first test of whether regional differences in the neural response to seizures results in differential clinical effects on depression and cognitive function.

NARSAD Young Investigator Award (PI: Aly, Mentor: Lisanby) 1/15/11-1/14/13

National Alliance for Research on Schizophrenia and Depression

\$60,000

Seizures and synaptogenesis: Mechanisms and safety of convulsive therapy

We propose to test for microglial activation in subjects that received ECT, MST, or sham interventions, which should provide novel information regarding therapeutic mechanisms by quantifying synapses in the hippocampus. This work should also provide conclusive evidence for the presence or absence of tissue injury in association with convulsive antidepressant therapies.

OC Foundation Pilot Research Award (PI: Mantovani, Co-I: Lisanby) 7/1/08-7/1/11

\$37,642

Optimization of TMS in OCD: A sham-controlled randomized clinical trial of MRI-guided TMS

This is the first study that will test the efficacy of MRI-guided 1Hz TMS applied to the pre-SMA in OCD patients who have not fully responded to conventional therapies.

CTSA Pilot Study Award (PI: Mantovani, co-I: Lisanby)

7/1/09-7/1/11

Irving Institute for Clinical and Translational Research

\$50,000

Modulation of premotor and motor circuits in Obsessive-Compulsive Disorder (OCD): a Transcranial Magnetic Stimulation (TMS) and Magnetic Resonance Spectroscopy (MRS) study

This project will examine the impact of low frequency TMS applied to the supplementary motor area on cortical GABA as assessed via MRS.

Brainsway (PI: Lisanby)

7/1/09-7/1/12

1% effort

\$128,324

A Prospective Multicenter Double Blind Randomized Controlled Trial to Explore the Tolerability, Safety and Efficacy of the H-Coil deep Transcranial Magnetic Stimulation (TMS) in Subjects with Major Depression Disorder (MDD)

NIMH K23 MH076976 (Mentor-Lisanby; PI-Stanford)

12/1/06-11/30/11

TDC \$819,700; Total Costs \$885,275

Negative symptoms of schizophrenia: From phenomenology to targeted treatment

This study uses TMS as a probe of the neural circuitry of negative symptoms and as a putative treatment.

NINDS K01 NS062116 (PI: Friel; co-Mentors: Martin, Lisanby, Gordon)

4/1/08 – 3/31/11

\$853,389

Mechanisms of cerebral palsy recovery induced by balancing motor cortex activity

This study uses TMS to examine the mechanisms of action of unimanual practice in improving motor function in cerebral palsy, testing a model of deficient interhemispheric balance in motor cortical excitability developed in the cat model.

1S10 RR027745-01 (PI: Luber, Co-I: Lisanby)

6/15/10-6/14/11

\$145,200

Precision Targeting of fMRI-Guided TMS Using a Robotic Arm System

This Shared Instrumentation Grant will enable the installation and implementation of a Robotic Arm System for precise targeting of image-guided noninvasive brain stimulation via transcranial magnetic stimulation (TMS) for the study of brain behavior relationships, pathophysiology of brain-based disorders, and intervention development trials.

Advanced Neuromodulation Systems (PI-Lisanby)

5/1/2012 -4/30/2014

\$657,879

Clinical Evaluation for the Management of patients with major depressive disorder, single or recurrent episode, with deep brain stimulation

The primary objective of this study is to demonstrate the safety and efficacy of deep brain stimulation (DBS) to the subgenual white matter (Brodmann Area 25WM) as an adjunctive treatment for Major Depressive Disorder (MDD), single or recurrent episode. This is a prospective, controlled, multi-centered, double blind, randomized study.

NeoSync Inc (PI: Krystal; co-PI: Lisanby)

01/04/12-01/03/13

\$86,609

Evaluation of Low Emission NeoSync EEG Synchronized TMS Technology (NEST)

This is a randomized, double-blinded, sham-controlled, parallel group study to evaluate the safety and efficacy of sTMS in subjects with major depressive disorder.

Stanley Medical Research Institute Grant (Principal Investigator = Lisanby) 7/1/05-10/1/12

5% effort

\$800,000

Magnetic Seizure Therapy (MST) for the Treatment of Depression

This 2-center trial study tests the comparative efficacy and side effects of two different forms of MST (with various coil placements) versus ECT in a randomized double-masked controlled trial.

R21 MH091276 (PI: Mantovani; Co-I: Lisanby)

4/1/11–3/31/14

NIMH

\$275,000

Transcranial magnetic stimulation for treatment of obsessive compulsive disorder

This project will evaluate, in a sham-controlled randomized trial, the feasibility, efficacy and safety of rTMS to the pre-SMA, using individual functional Magnetic Resonance Imaging (fMRI) guidance, in treatment-resistant OCD.

NIA K01 AG031912 (PI: Luber; co-Mentors: Lisanby and Stern)

4/1/08 – 3/31/14

\$606,250

Neural basis of cognitive reserve: fMRI/TMS studies of memory and aging

This Mentored Research Scientist Development Award (K01) will provide Dr. Bruce Luber with the necessary training and skills to become an independent investigator with expertise in the neural basis of cognitive reserve, applying innovative tools (e.g., fMRI-guided TMS) that may ultimately lead to novel interventions for age related memory loss.

#### Academic Committee Leadership (selected)

2012-2013	Chair, Neurology Chair Search Committee, Duke University School of Medicine
1999-2010	Chair, Nonhuman Primate Interest Group, New York State Psychiatric Institute, Columbia University
1997-1999	Chair, Emergency Medical Services Work Group, New York State Psychiatric Institute, Columbia University

#### Academic Committee Membership (selected)

2010-2015	Medical Center Executive Committee, Duke University
2010-2011	Search Committee – Director of Duke Institute for Brain Sciences (DIBS)

2010-2015	Faculty Compensation Committee, Duke University Department of Psychiatry and Behavioral Sciences
2010-2015	Grand Rounds Committee, Duke University Department of Psychiatry and Behavioral Sciences
2008-2010	Chief of Comparative Medicine Search Committee, New York State Psychiatric Institute
2008-2010	Executive Advisory Committee [Advisory group to the Chair of Psychiatry], Columbia Department of Psychiatry
2008-2010	PI 5 South Users' Group [Advisory group to the inpatient psychiatry unit]
2008-2010	Grand Rounds Committee, Columbia Department of Psychiatry
2007-2010	Institutional Review Board, New York State Psychiatric Institute
2007- 2010	Residency Training Director Search Committee, Columbia Department of Psychiatry
2007-2010	Advisory Group to the General Clinical Research Unit (GCRU)
2006-2010	Columbia Women's Faculty Committee
2005-2006	Department of Biological Psychiatry Executive Committee
1997-2010	Columbia Psychiatry Residency Selection Committee

### Teaching Experience and Responsibilities (Prior to recruitment to NIMH)

#### Undergraduate Teaching

- Mentor to Barnard undergraduate honors students for their honors thesis in research
- Mentor to NIH sponsored minority student fellowships
- Duke Summer Shadowing Program Mentor (1995-2010) - Mentored over 25 pre-medical undergraduate women for summer research experiences.
- Summer Training on Aging Research Topics – Mental Health (START-MH) Mentor

#### Medical Student Teaching



- Served as preceptor for the Medical Student Human Behavior course, which enrolled 30 students per year (Duke)
- Coordinated the Basic Psychopathology Seminar Series for medical students that enrolled 15 students (Duke)
- Served as the coordinator for the 3rd year medical student psychiatry rotation, which enrolled 15 students (Duke)
- Elected by the Duke Medical School Class for the Medical Student Teaching Award (Duke)
- Provide bedside teaching on electroconvulsive therapy (ECT) during their psychiatry rotations, 1995-2015
- Supervised Stanley Scholar students for summer research projects
- Supervised Columbia Medical Students for research rotations
- Supervised Medical Students from other Medical Schools for electives at Columbia and Duke
- Lectured to the Stanley Scholar student seminar
- Served as mentor to a Doris Duke Medical Student Research Fellows
- Provided clinical supervision to MD/PhD students during their research years
- Served as research mentor to women premedical students for summer research projects conducted at Columbia University through the Duke Health Careers Advising Program (>10 students to date), many were subsequently admitted to medical schools across the country.
- Three former Research Assistants were subsequently accepted to Columbia Medical School, and one of these achieved co-authorship prior to matriculation.
- Thirteen former Research Assistants were subsequently accepted to other medical school across the country, and 9 of these achieved co-authorship prior to matriculation.
- Served as preceptor to Columbia MD/PhD students in the Clinical Competence Course.
- Summer Training on Aging Research Topics – Mental Health (START-MH) Mentor
- Elective Rotation in Brain Stimulation - preceptor
- Doris Duke Clinical Research Fellowship Program Mentor

- Duke Medical Student 3<sup>rd</sup> Year Research Elective mentor

### Resident Teaching

- Co-coordinator, Psychiatry Residency PGY-1 Class, Duke University Medical Center, 1994-95.
- Clinical Supervisor of PGY-4 Psychiatry Residents, Creedmoor Psychiatric Center, 1995-1998.
- PRITE fellow and three years on the Editorial Board of the PRITE (Psychiatry Residents In Training Exam).
- Supervision of Psychiatry Residents and Medical Students training in ECT, Columbia College of Physicians and Surgeons, 1995-2010.
- Director, Visiting Fellowship in Electroconvulsive Therapy, Columbia College of Physicians and Surgeons, 1996-2010, 4 hours per course, 4 courses per year – opened free to residents, fellows, and other trainees
- Director, Visiting Fellowship in Transcranial Magnetic Stimulation, Columbia College of Physicians and Surgeons, 2005-2010, 4 hours per course, 4 courses per year – opened free to residents, fellows, and other trainees
- PGYII Lecture Series on Medical Emergencies in Psychiatry, Columbia College of Physicians and Surgeons, 1997-1999.
- Columbia Psychopharmacology Center Clinical Supervisor, Psychopharmacology Supervisor of PGY-3 Psychiatry Residents, Columbia College of Physicians and Surgeons, 1997-1999.
- Director of TMS/VNS Departmental Seminar Series, 1997-2010.
- PGY IV Introductory lectures on Brain Imaging Techniques in Psychiatry, Columbia College of Physicians and Surgeons, 11/17/97.
- Co-Director, Interdisciplinary Study Group on Neuroscience and Psychoanalysis, Columbia College of Physicians and Surgeons, 1998-2000.
- PGYII-PGYIII course lecturer for "Clinical Neurobiology & psychopharmacological algorithms." Course directors: Jeremy Coplan and Jay Gingrich. 1999-2006
- Research Fellows Seminar on Translational Research, Columbia College of Physicians and

Surgeons, 2/16/99.

- Course co-Director, PGYIV Seminar "Neural Circuitry of Psychiatric Disorders," 1999-present.
- Course co-Director, PGYII "Brain and Mind", 2005-2010.
- Lectures to General Clinical Research Unit on TMS and Depression, discussant for GCRU Journal Clubs, 2000-2010
- Columbia Brain Stimulation Journal club Founder and Director, 2006-2010.
- Sergievsky Center Seminar Series lecturer, 2003-2010.
- Intensive Outpatient Program (IOP) Resident seminars, 2006-2010.
- Supervised residents for research electives, culminating in:
  - 2 institutional grants (Cogent Award, Frontier fund)
  - 4 peer-reviewed publications
  - 2 published abstracts,
  - 1 IRB protocol, 3 IACUC protocols
  - 3 have gone on to do fellowships at Columbia

### Graduate Student Teaching

- MS and PhD Dissertation Advisor to Psychology graduate student with Dr. Herb Terrace (Tammy Moscrip)
- PhD Dissertation Advisor to Antonio Mantovani (2005), in a collaborative project between Sienna University and Columbia University
- PhD Dissertation Advisor to John Ferrera (2006-2008) for PhD in Neuropsychology, using TMS/fMRI studies of language in collaboration with Dr. Joy Hirsch of Radiology.
- PhD Dissertation co-Advisor to Electrical Engineering Graduate student on TMS technology development (Deng, Z-D) (2007-present) with Dr. Angel Peterchev of Psychiatry and Engineering.
- MD Dissertation Advisor to Mohamed Khalaf Mohamed Ali (2007-present), in a collaborative project between Al-Minia University, Egypt and Columbia University
- MS Thesis advisor to Bruce Bassie (2008-2009) with Dr. Angel Peterchev, collaboration between

### Psychiatry and Biomedical Engineering

- Mentor on PIRSG and Frontier Fund Awards to graduate students
- Biology of Neurologic and Psychiatric Disorders Lecturer (Rene Henn course director), 2007-2010.
- Neuropsychopharmacology Graduate Student Course lecturer (Jonathan Javitch course director), 2006-2010.
- Behavioral Neuroscience (PSYC G9410), Graduate Student Course Lecturer (Rae Silver course director), 2008-2010.

### Postdoctoral Fellow Teaching

- Faculty mentor, T32 Columbia Geriatric Psychiatry Postdoctoral Fellowship, 1999-2010
- Faculty mentor, T32 Columbia Affective and Anxiety Disorders Research Fellowship, 1999-2010.
- Faculty mentor, T32 Columbia Schizophrenia Research Fellowship, 2005-2010
- Faculty mentor, T32 Columbia Substance Abuse Fellowship, 2006-2010
- Faculty mentor, T32 Columbia Child Psychiatry Fellowship, 2009-2010
- Faculty mentor, T32 Columbia Neurology Stroke Studies Research Fellowship, 2008-2010
- Mentored 21 postdoc fellows:
  - Fifteen received NARSAD Young Investigator Awards (one fellow received two)
  - Five received K Awards (NIH Career Development Awards)
  - One received an NIH R21
  - One received another Foundation Award (American Foundation for Suicide Prevention)
  - Six received Frontier Fund Awards
  - Four received ACNP Travel Awards
- Career Development (K) Award Seminar lecturer (Course Director: Harold Pincus, MD), 2008-2010

### Junior and Mid-Career Faculty Development

- Mentored >20 junior faculty
- Supported promotions to Assistant, Associate, and Professor Level

- Mentoring faculty with disabilities, including a successful NIH K-Awardee
- Mentoring faculty from diverse backgrounds, including underrepresented minorities, individuals with disabilities, and LGBTQ faculty

CME Courses

- Duke TMS CME Course – Director (2010-2015), Lecturer (2015-2020)
- Columbia TMS CME Course – Director (2005-2010)
- Columbia ECT CME Course – Director (2003-2006), Lecturer (1995-2003)
- Columbia Translational Neuroscience Course - Lecturer (Course Directors: Jack Martin, John Koester, Michael Goldberg, John Krakauer), 2008-2010
- Co-Chair, TMS Certificate Course, Association for Convulsive Therapy (now the International Society for ECT and Neuromodulation), 2008-present.

Investigator Training in Advanced Research Techniques

- NIMH Non-Invasive Brain Stimulation E-Field Modeling Course – Course Directors: David McMullen and SH Lisanby, Nov 11, 2017 and enduring media [online](#).

**Predocutorial, Postdoctoral, and Junior Faculty Trainees (Selected) – Prior to Recruitment to NIMH**

Past and Current Trainees	Pre or Post doctoral	Training Period	Prior Academic Degree			Title of Research Project	Current Position (past trainees) Source of Support (current trainees)
			Degree(s)	Year(s)	Institutions(s)		
Aaronson, Alexandra	Pre	2006-2008	Undergraduate	NA	Barnard	Undergraduate research elective on brain stimulation	Adjunct Assistant Professor of Psychiatry, Feinberg School

							of Medicine. VA Career Development Award (CDA-2) recipient
Balderston, Nicholas	Post (co-mentored with Christian Grillon)	2017-2019	PhD	2013	University of Wisconsin - Milwaukee	Mechanisms of anxiety regulation using a novel, sham-controlled, fMRI-guided rTMS protocol and a translational laboratory model of anxiety	Assistant Professor, Department of Psychiatry, University of Pennsylvania, NARSAD Young Investigator Award, K01 awardee, U01 awardee
Bassi, Bruce	Pre	2008-2010	BS	2006	University of Connecticut	Master's thesis on EEG-synchronized transcranial magnetic stimulation	Addiction Psychiatrist, Current Pain Medicine Fellow, Stanford
Berman, Joshua	Post	2008-2010	MD, PhD	1996	Mount Sinai	Noninvasive brain stimulation in psychiatry	Assistant Professor, Columbia. NARSAD Young Investigator Awardee, K08 Awardee
Berman, Robert	Post	2004-2006	MD, PhD, Psychiatry Residency and	2000	U of Pittsburgh, Columbia	Focal electrical stimulation in treatment of mood	Assistant Professor of Clinical

			Fellowship			disorders	Psychiatry, Columbia University; NARSAD Young Investigator Award; Behavioral Health Medical Director at UnitedHealth Group
Beynel, Lysianne	Post (co- mentored with Greg Appelbaum)	2017- 2019; 2020- present	PhD	2015	University Grenoble Alpes, France	fMRI-guided, E-field targeted TMS enhancement of working memory in aging	Post-doctoral Fellow (Duke); Research Fellow FTE (NIMH)
Boylan, Laura	Post	1998- 2000	MD, Neurology Residency and Fellowship	1998	Columbia	TMS in Parkinson's Disease	NYU Assistant Professor of Neurology, now with Albany NY VA.
Bress, Jennifer	Pre	2006- 2009	BA	2005	Vassar	Psychophysiological measures of reward responsivity in depression	Assistant Professor of Psychology, Weill Cornell
Bulow, Peter	Post	2004- 2010	MD, Psychiatry Residency and Fellowship	1996	U of Illinois, Mount Sinai U	Electromagnetic innovations in depression treatment	Assistant Clinical Professor of Psychiatry, DARPA – DOD NARSAD NYSTAR

Burt, Tal	Post	1998-2000	MD, Residency, Fellowship	1991	Universita Degli Studi di Firenze, Italy	TMS in Bipolar Disorder	CEO, President, & Founder, Phase-0/Microdosing Network
Chen, Chi-Ming	Post	2007-2010	PhD, Postdoctoral fellowship	2007	Albert Einstein College of Medicine	Functional role of oscillations in cognitive dysfunction of schizophrenia: TMS/MRS/EEG studies	Associate Professor, University of Connecticut
Cycowicz, Yael	Post	2006-2010	PhD	1992	NYU	TMS/ERP studies of anxiety disorders	Associate Professor, Columbia University
Dannhauer, Moritz	Post	2022-present	DSC	2017	University of Leipzig	Electric field modeling of noninvasive brain stimulation	Research Fellow, NIMH. K applicant - pending
Davis, Simon	Post	2013-2015	PhD	2011	Duke	Connectivity and cognitive aging	Assistant Professor, Neurology, Duke. K01 awardee. R01 awardee
Deng, Zhi-De	Pre and Post	2007-present	MS, PhD	2007	MIT	Deep brain TMS	Staff Scientist, NIMH Intramural Research Program, KL2 Awardee, NASRAD Young



							Investigator Award
Dichter, Gabriel	Pre	1995-1997	BA	1993	Haverford	Autism spectrum disorders	Professor, UNC. NARSAD Young Investigator Award, K23 and R01 awardee
Disner, Seth	Pre	2006-2009	BA	2006	Duke	Biological mechanisms that confer risk for trauma-related psychopathology	Assistant Professor, University of Minnesota / Minneapolis VA. VA Career Development Awardee
Fisher, Carl	Pre	2007-2010	BS	2003	UNC	TMS/fMRI studies of autism; DBS for depression	Assistant Professor, Columbia University
Francis, Sunday	Post	2021-present	PhD	2009	University of Chicago	Neurodevelopment and compulsive behaviors	Research Fellow, FTE, NIMH
Friel, Kathleen	Post	2006-2010	PhD, Postdoctoral fellowship	2002	Kansas Medical Center; Columbia	TMS studies of cerebral palsy treatment mechanisms	Director, Clinical Laboratory for Early Brain Injury Recovery, Burke Neurological Institute, NIH K01, R03, R01
Goetz, Stefan	Post	2008-2015	PhD, Postdoctoral	2012	Technical University of	Waveform control to optimize	Assistant Professor, Duke.

			fellowship		Munich, School of Medicine	noninvasive neuromodulation	NASRAD Young Investigator Award
Hu, Yu-Pei	Post	2014- 2015	MD	2008	National Yang- Ming University, Taiwan	Combining TMS with exposure and response prevention for the treatment of OCD	Assistant Professor, Department of Psychiatry, Boston University. Now at Harvard Counseling and Mental Health Services
Martinez- Kaigi, Valeria	Post	2016	MS	2011	University of Nevada	Combined image- guided TMS/Cognitive Behavioral Therapy	Post-doctoral Fellow, Yale University, New Haven, Connecticut. Now at Hartford HealthCare
Jiang, Xiaoyin "Sara"	Pre	2003- 2004	BS	2003	Duke	Neuroplastic effects of seizure therapy on nonhuman primate brain	Associate Professor of Pathology, Duke
Lee, Won He	Pre and Post	2008- 2014	PhD	2014	Columbia	Realistic head modeling of E-field in brain induced by TMS/MST	Assistant Professor, Mount Sinai
Luber, Bruce	Post	2005- 2010	PhD	1992	NYU	TMS/fMRI studies of working memory circuitry	Staff Scientist, NIMH IRP, formerly

							Associate Professor at Duke, NIH K01 Award, DARPA-DOD, NYSTAR NIA R01
Mantovani, Antonio	Post	2004-2010	MD, PhD, Residency, Fellowship	2004	University of Sienna	TMS Modulation of Hyperexcitable circuits in anxiety disorders	Assistant Professor, CUNY, NARSAD, OCF, TSA, grants from University of Siena, Italy
Matthews, Nestor	Post	1999-2001	PhD, Postdoctoral Fellowship	1997	Brown, Columbia	TMS studies of visual motion processing	Professor and Dept. Chair of Psychology, Denison University
McClintock, Shawn	Post	2007-2015	PhD, Postdoctoral fellowship	2006	University of Texas Southwestern Medical Center	Cognitive consequences of seizures	Associate Professor, UTSW, K12, NARSAD, NIH K23, NIH R01
Morales, Oscar	Post	2003-2005	MD, Residency, Fellowship	1997	Guatemala, Tufts, Columbia	Focal brain stimulation for depression treatment	Formerly Director, TMS Service, McLean/Harvard, now at Sheppard Pratt

Moscip, Tammy	Pre	1999-2005	PhD	2005	Columbia	Cognitive effects of Magnetic Seizure Therapy in nonhuman primates	Executive Director, The Spire School, Adjunct Prof, Univ of Connecticut
Neacsiu, Andrada	Post (co-Mentor with Kevin LaBar)	2014-2015	PhD	2012	University of Washington	TMS-enhanced cognitive restructuring to target fronto-amygdalar circuitry implicated in emotional dysregulation	Assistant Professor, Duke Department of Psychiatry and Behavioral Sciences, NARSAD Young Investigator Award. NIH R01 awardee
Perera, Tarique	Post	1999-2002	MD, Residency, Fellowship	1997	Harvard	Hippocampal plasticity following antidepressant treatments	Clinical Director and CEO, Contemporary Care (TMS Clinic)
Peterchev, Angel	Post	2006-present	PhD	2006	Berkeley	Neurostimulation technology development	Associate Professor with tenure at Duke, R01, DARPA, NIH BRAIN Initiative R01
Ploesser, Markus	Post	2007-2010	MD	2004	Columbia	TMS studies of deception	Forensic Psychiatrist, NY
Rakesh, Gopalkumar	Post	2015-2018	MD			Theta Burst Stimulation (TBS) to	Postdoc, Duke University. Now

						Modulate Cognition in Schizophrenia	Assistant Professor of Psychiatry at University of Kentucky
Rosa, Marina	Post	2008- 2010	MD			TMS in anxiety disorders	Universidade Federal de São Paulo São Paulo, Brazil
Rosa, Moacyr	Post	2008- 2010	MD, PhD			Optimization of Magnetic Seizure Therapy	Universidade Federal de São Paulo São Paulo, Brazil
Rosedale, Mary	Post	2007- 2010	RN, PhD	2007	NYU	Neurostimulation and nursing	Formerly Assistant Professor, NYU School of Nursing (deceased)
Rowny, Stefan	Post	2007- 2010	MD	2003	UCLA	TMS/PET studies of depression circuitry	Assistant Professor, Columbia Psychiatry, NIMH T32; NARSAD Young Investigator Award; K23 Awardee
Satthapan, Aakash	Post	2017- 2018	BA	2014	UCSD	NIH Medical Research Scholars Program: Combined	Clinical Fellow in Psychiatry, Harvard

						image-guided TMS/Cognitive Behavioral Therapy	
Scalia, Jason	Post	2004- 2006	PhD, postdoctoral fellowship	2004	Columbia	Neuroanatomical effects of seizures	Instructor of Clinical Psychiatry NIMH T32 NARSAD Suicide Foundation
Segal, Solomon	Post	2007- 2009	MD			DBS for depression: Translational studies	Associate Professor, Saint Louis University, Janssen Translational Neuroscience Fellowship
Sikes-Keilp, Christopher	Pre	2011- 2015	BS	2011	Duke	Clinical trials – noninvasive brain stimulation	Psychiatry resident, research track, UNC
Spellman, Timothy	Pre	2005- 2008	BA	2004	Dartmouth	Neurocognitive effects of seizure therapy in nonhuman primates	Assistant Professor, UCONN Health. NARSAD Young Investigator Awardee. K99/R00 Awardee
Sporn, Alexandra	Post	2006- 2008	MD, residency, fellowship	1994	NIMH, Harvard,	TMS/fMRI studies in autism	Assistant Professor of

					Moscow		Clinical Psychiatry, K12
Stanford, Arielle	Post	2004- 2010	MD, residency, fellowship	1999	Washington University, Columbia	TMS Studies of the Neural Circuitry of Negative Symptoms in Schizophrenia	Medical Director, Clinical Sciences, Alkermes, K23, NARSAD
Van Roessel, Peter	Post	2007- 2008	MD	2007	UCLA, Columbia	TMS/fMRI studies of placebo analgesia	Associate Professor, Stanford
Vorel, Stanislav R.	Post	2006- 2008	MD – 1994		Rijksuniversiteit Limbrug	Interaction of Nicotine and CTMS in Schizophrenia	Assistant Professor Columbia University, NIDA K23, R03
Young, Jonathan	Pre	2014- 2015	BA	2010	NYU	Noninvasive brain stimulation in smoking cessation	Assistant Consulting Professor, Duke. VA Career Development Awardee
Youssef, Nagy	Post	2012- 2013	MD, PhD			Seizure Therapy: MST and ECT	Professor and Director of Clinical Research, Ohio State University

### Other Professional Activities

2022

Co-Chair, National Academies of Sciences Engineering and Medicine

- Exploring Psychedelics and Entactogens as Treatments for Psychiatric Disorders: A Workshop [March 29-30, 2022]. From the Forum on Neuroscience and Nervous System Disorders, Board on Health Policy, Health and Medicine Division. The National Academies Press, Washington, DC. 2022. Read online [here](#). Free download [here](#). Videos available [here](#).
- 2018 Planning Committee and Reviewer for National Academies of Medicine Workshop [September 8, 2017] and Summary Publication: Enabling Novel Treatments for Nervous System Disorders by Improving Methods for Traversing the Blood-Brain Barrier. From the Forum on Neuroscience and Nervous System Disorders, Board on Health Policy, Health and Medicine Division. The National Academies Press, Washington, DC. 2018. Read online [here](#). Free download [here](#).
- 2016 Co-Chair, National Academies of Sciences Engineering and Medicine “Multi-Modal Therapies for Brain Disorders: A Workshop.” [June 14-15, 2016] From the Forum on Neuroscience and Nervous System Disorders, Board on Health Policy, Health and Medicine Division. The National Academies Press, Washington, DC. 2022. Read online [here](#). Free download [here](#).
- 2015 Planning Committee and Reviewer for Institute of Medicine Workshop Summary publication: Non-Invasive Neuromodulation of the Central Nervous System: Opportunities and Challenges. From the Forum on Neuroscience and Nervous System Disorders, Board on Health Policy, Institute of Medicine. The National Academies Press, Washington, DC. 2015. Read online [here](#). Free download [here](#).
- 2008-2010 Agency for Healthcare Research and Quality's Evidence-Based Practice Centers (EPCs) Technical Expert Panel (TEP) nonpharmacologic treatments for refractory depression
- 2007-2009 Agency for Healthcare Research and Quality (AHRQ) Technical Expert Group members for a new CER on Non-pharmacologic Treatment of Depression



2006-2009                      Chair, Data Safety and Monitoring Board (DSMB) – NorthStar Trial of Cortical Stimulation for the treatment of major depression.

### Patents / Inventions

1. Invention disclosure filed on “Controllable Pulse Shape TMS Device.” Inventor: Peterchev, A.; Laboratory: Lisanby, S.H. Filing Date: 2006
2. U.S. Patent Application filed on “Systems and Methods for Inducing Electric Field Pulses in a Body Organ.” Inventor: Peterchev, A. V. Assignee: Columbia University Brain Stimulation Division. Filing date: 3/28/2007.
3. Invention disclosure filed on “Transcutaneous Vagus Nerve Stimulation for the Treatment of Schizophrenia.” Inventors: Stanford, A., Lisanby, S.H.; Laboratory: Lisanby, S.H. Filing Date: Feb 25, 2008. Invention Report #2357.
4. Invention disclosure filed on “Systems and Methods for Inducing Electric Fields in the Brain.” Inventors: Angel Vladimirov Peterchev; Sarah Lisanby; Zhi-De Deng. Filing Date: July 11, 2008. Invention Report (IR) # 2434.
5. U.S. Patent Application filed on “Methods, Apparatus, and Systems for Magnetic Stimulation.” Inventors: Angel Vladimirov Peterchev; Sarah Lisanby; Zhi-De Deng. Filing Date: August 4, 2008, Serial No. 61/086,080.
6. Peterchev, A.V., Lisanby, S.H., Deng, Z.-D., 2009. Methods, apparatus, and systems for magnetic stimulation. PCT WO/2010/017249, US09/52768 (Aug. 4, 2009), also filed as U.S. Letters Patent application No. 13/056,914 (Jan. 31, 2011), U.S. Provisional Patent application No. 61/086,080 (Aug. 4, 2008) and No. 61/117,858 (Nov. 25, 2008).
7. Invention disclosure filed on “Minimally Invasive Ultrasound-Based Deep Brain Stimulation.” Inventors: Oralkan, Lisanby, Turner, and Peterchev. Filing Date: 2013. Filed through Duke (IDF# 4296) and NCSU.
8. U.S. Patent Publication Date: 3/29/2016. Methods, apparatus, and systems for magnetic stimulation. Inventors: Angel Vladimirov Peterchev; Sarah Lisanby; Zhi-De Deng. Patent Number: 9295853.

9. U.S. Patent application on “SYSTEMS AND METHODS FOR MULTICHANNEL INDIVIDUALIZED STIMULATION THERAPY.” Inventors: Deng, Pritchard, Kim, Dold, Schor, Lisanby. Filing Date: 4/10/2023. Filed through NIH (Docket No. NIH23302P).
10. U.S. Provisional Patent Application No. 63/656,515, filed June 05, 2024. NIH Ref. No.: E-214-2023-0-US-01. Title: SYSTEMS AND METHODS FOR ADJUSTABLE CURRENT INDIVIDUALIZED STIMULATION THERAPY. Inventors: Zhi-De Deng, Junghee Kim, George Dold, Bruce Pritchard, Robert Schor, Sarah Lisanby. Filed through NIH (Docket No. NIH24301P).

### Public Education and Outreach (Selected)

- Numerous presentations to consumer groups and the community, including:
  - National Alliance for the Mentally Ill (county, state, and national)
  - Mood Disorder Support Group
- Featured in Atlantic Monthly, December 2015 issue: “[The Return of Electroshock Therapy: Can Sarah Lisanby help an infamous form of depression treatment shed its brutal reputation?](#)”
- Numerous appearances on National Network TV, including:
  - 60 Minutes (2 appearances, most recently interviewed by Anderson Cooper [webcast available [here](#)])
  - [ABC Good Morning America](#)
  - [ABC News](#)
  - Anderson Cooper 360
  - CBS News
  - CBS This Morning [webcast available [here](#)]
  - CNN
  - Fox News
  - Good Day NY
  - NY1
  - PBS – featured on the documentary “Ride the Tiger: A guide through the bipolar brain”
  - The Dr. Oz Show [2 appearances]

- The View
  - WABC
  - WRAL [webcast available [here](#)]
- Numerous appearances on National Radio:
  - NPR Morning Edition
  - NPR The Infinite Mind
  - NPR Talk of the Nation
  - NPR The Leonard Lopate Show
  - NPR Weekend Edition
  - Radio Health Journal [webcast available [here](#)]
- Numerous Interviews for National and International News Outlets, including:
  - Atlantic Monthly
  - Barron's
  - Boston Globe
  - Business Week
  - Clinical Psychiatry News
  - Der Spiegel
  - Discover
  - Dow Jones
  - Economist
  - Hartford Courant
  - IEEE Spectrum
  - JAMA
  - LA Times
  - London Telegraph
  - MSNBC
  - Nature [[March 2, 2016](#); [May 26, 2023](#)]
  - Newsday
  - Newsweek

- NY Sun
- Magazines / Newspapers / e-pub / podcasts
  - College Student Success Podcast, Episode 79 on Electroconvulsive Therapy
  - Modern Minds with Mark Henick “The Therapy Electric: Perspectives on ECT with Dr. Sarah Lisanby and Professor John Reed”
  - Psychiatric News
  - Psychiatric Times
  - Radiology Today
  - Salon.com
  - Science Magazine [[2001](#), [2004](#), [2020](#)]
  - Scientific American
  - SheSez with Linda Grasso Podcast “[TMS: For When Depressions Meds Don't Work w Dr. Sarah Lisanby](#)”
  - Slate
  - Speaking of Psychology [Episode 236](#), produced by the American Psychological Association
  - Technology Review
  - Time Magazine
  - US News
  - Village Voice
  - Wall Street Journal
  - Washington Post
  - WebMD
  - Wired
- Multiple Documentary Interviews: Featured on “Shock”, Brad Osborne Productions – Based on the book by Kitty Dukakis and Larry Tye: Shock, the Healing Power of ECT.
- Acknowledged for assisting in the research and editing of the book [Shock, the Healing Power of ECT](#), by Kitty Dukakis and Larry Tye.
- Letter to the Editor on ECT: [Marie Claire](#), March 2010, pp. 24.

## Publications

### Bibliometrics:

Google Scholar: h-index=86, citations= 30,998, i10-index=237 (number of publications with at least 10 citations)

NIH iCite metrics:

Total NIH supported publications=264

Relative Citation Ratio (RCR) = 2.82 (received 2.82 times as many citations per year as the average NIH supported paper in the field)

Weighted RCR = 700.57 (Sum of RCRs, which weights the article count by their influence relative to NIH-funded papers. High influence on the field is reflected in weighted RCR higher than total number of pubs)

### Original Peer-Reviewed Articles

#### Published Articles

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115. \*Lisanby SH, Kirov G, McClintock SM, Spellman T, Scott A, Husain MM, Luber B, Terrace H, Ebmeier K. Cognitive effects of high-dose Magnetic Seizure Therapy (MST) and ECT: Translational studies in depressed patients and nonhuman primates. *American College of*

Neuropsychopharmacology 2007 Annual Meeting. Hot Topic.

116. \*Luber B, Spellman T, Kate S, Lisanby SH. Role of parietal and prefrontal cortices in deceptive processing: A TMS study of the Guilty Knowledge Task. American College of Neuropsychopharmacology 2007 Annual Meeting.
117. \*Stanford AD, Lou HC, Luber B, Gross J, Biermann-Ruben K, Schnitzler A, Kjaer TW, Lisanby SH. Role of angular gyrus in self recognition studied with transcranial magnetic stimulation. American College of Neuropsychopharmacology 2007 Annual Meeting.
118. \*Peterchev AV, Berman R, Luber B, Schroeder CE, Truesdale MD, Kaplan DM, Brodsky J, Lisanby SH. Relationship between electric field and ictal power induced by electroconvulsive shock (ECS) and magnetic seizure therapy (MST) in nonhuman primates. American College of Neuropsychopharmacology 2007 Annual Meeting.
119. \*McClintock SM, Cullum CM, Husain MM, Luber B, Lisanby SH. Rapid Recovery of Orientation Following Magnetic Seizure Therapy, Poster Presentation, International Neuropsychological Society (INS) 36th Annual Meeting, Waikoloa, Hawaii, February 2008.
120. Huys QJM, Bogdan R, Ouden HD, Parsey RV, Lisanby SH, Pizzagalli DA & Dayan P. (2008, Feb.). Reward and helplessness in depression. Poster presented at Computational and Systems Neuroscience 2008, Salt Lake City, UT, USA.
121. Kirov G, Khalid N, Atkins M, Tredget J, Giles M, Husain M, Lisanby SH, Ebmeier K, Scott AIF, Carrick L, Stanfield A: Magnetic seizure therapy at 100Hz for the treatment of depression: a pilot study. 2008 World Congress of Psychiatry, Prague.
122. \*Deng, Z.-D., Peterchev, A., Lisanby, S.H.: Coil design considerations for deep-brain transcranial magnetic stimulation (dTMS). IEEE Engineering in Medicine and Biology Society Annual Meeting. Vancouver, British Columbia, Canada. August 20-24, 2008.
123. \*Mantovani, A., Simpson, H.B., Fallon, B.A., Lisanby, S. H.: Randomized Sham Controlled trial of Transcranial Magnetic Stimulation (TMS) to the Supplementary Motor Area (SMA) for the Treatment of Medication Resistant Obsessive-Compulsive Disorder (OCD). 2008 Annual Meeting of the Society for Biological Psychiatry. Biological Psychiatry, 2008;63:136S.
124. \*Luber, B., Bulow, P., Stanford, A.D., Rakitin, B.C., Stern, Y., Lisanby, S. H.: fMRI-guided rTMS in the Remediation of Sleep Deprivation-Induced Performance Deficits in a Working Memory

- Task. 2008 Annual Meeting of the Society for Biological Psychiatry. *Biological Psychiatry*, 2008;63:65-66S.
125. \*Lisanby, S.H., Scalia, J., Bernhardt, E., Spellman, T., Underwood, M.D., Dwork, A.J., Arango, V.: High dose Magnetic Seizure Therapy (HD-MST) increases mossy fiber sprouting but not cellular proliferation in the primate dentate gyrus. 2008 Annual Meeting of the Society for Biological Psychiatry. *Biological Psychiatry*, 2008;63:231S.
126. \*Luber, B., Bulow, P., Stanford, A.D., Rakitin, B., Stern, Y., Lisanby, S.H.: A new paradigm to study resilience to age-related memory impairment using fMRI-guided rTMS. *Gerontological Society of America* 2008.
127. \*Lisanby, S.H.: Translational development strategy for Magnetic Seizure Therapy (MST). Workshop #4: Beyond ECT: The Challenges of New Somatic Treatment Research, Co-Chairs: MV Rudorfer and M Hillefors. NCDEU 48th Annual Meeting. Phoenix, Arizona. May 27-30, 2008.
128. \*Chen, C-M, Kegeles, L. S., Schroeder, C.E., Kayser, J., Tenke, C.E., Lisanby, S. H.: Working memory deficits in schizophrenia: Neural oscillation and GABAergic dysfunctions in dorsolateral prefrontal cortex. *Society for Neuroscience Annual Meeting*. Washington, DC. Nov. 17, 2008.
129. \*Lisanby, S.H., Husain, M.M., Rosenquist, P., Maixner, D., Gutierrez, Krystal, A., Gilmer, Marangell, Aaronson, S., Daskalakis, J., Canterbury, Richelson, E., Sackeim, H.A, George, M.S.: Transcranial magnetic stimulation in the acute treatment of major depression: Clinical predictors of outcome in randomized and open-label trials. *U.S. Psychiatric and Mental Health Congress*. 2008 Annual Meeting.
130. \*Peterchev, A.V., Luber, B., Wager, T.D., Westin, G.G., Lisanby, S.H.: First Human Study of Controllable Pulse Shape Transcranial Magnetic Stimulation (cTMS): Effect of Pulse Width on Corticospinal Response and Scalp Sensation. *American College of Neuropsychopharmacology* 2008 Annual Meeting.
131. \*Cycowicz, Y., Luber, B., Spellman, T., Lisanby, S.H.: Neurophysiological Characterization of Magnetic Seizure Therapy (MST): Ictal Expression Predicts Cognitive Outcomes. *American College of Neuropsychopharmacology* 2008 Annual Meeting.
132. \*Rowny, S., Cycowicz, Y. M., Truesdale, M., McClintock, S., Luber, B., Lisanby, S. H.:

- Reduced Sympathetic Response to Magnetic Seizure Therapy (MST) Compared to Electroconvulsive Therapy (ECT) in Non-Human Primates. American College of Neuropsychopharmacology 2008 Annual Meeting.
133. \*Stanford, A.D., Lai, G., Luber, B., Moeller, J., Baboumian, S. Hirsch, J., Malaspina, D., Lisanby, S.H.: Using a Monetary Reward Task to Differentiate Volition from Hedonia. American College of Neuropsychopharmacology 2008 Annual Meeting.
134. \*Sporn, A.L., Lai, G., Disner, S., Hirsch, J., Lisanby, S.H.: fMRI-guided transcranial Direct Current Stimulation (tDCS) in the Amelioration of Language Deficits in Autism. American College of Neuropsychopharmacology 2008 Annual Meeting.
135. \*Stanford, A.D., Lai, G., Luber, B., Moeller, J., Baboumian, S. Hirsch, J., Malaspina, D., Lisanby, S.H.: Differentiating Volition from Hedonia using a monetary reward task during fMRI. International Congress on Schizophrenia Research. 2009.
136. \*Deng, Z.-D., Peterchev, A.V., Lisanby, S.H.: Focality of neural stimulation with magnetic seizure therapy (MST) and electroconvulsive therapy (ECT) in humans and non-human primates. Society for Biological Psychiatry Annual Meeting. 2009.
137. Lildharrie, J., Lisanby, S.H., Singh, R., Hen, R., Battaglia, F.: Frequency-dependent effects of rTMS on neurogenesis, synaptic plasticity, and behavior. Society for Biological Psychiatry Annual Meeting. 2009.
138. \*Stanford, A.D., Luber, B., Lai, G., Baboumian, S., Moeller, J., Hirsch, J., Malaspina, D., Lisanby, S.H.: fMRI-guided TMS modulation of reward circuitry. Society for Biological Psychiatry Annual Meeting. 2009.
139. \*Lisanby, S.H. and Weiner, R., co-Chairs: 21<sup>st</sup> Century ECT – Updating the APA recommendations on ECT. Report of the Task Force to Revise the Practice of ECT Therapy. Medical Update 1. Annual Meeting of the American Psychiatric Association. Annual meeting program, page 26. May 19, 2009. San Francisco, CA.
140. \*Lisanby, S.H. Chair. Workshop on Hot Topics in TMS. Association for Convulsive Therapy Annual Meeting. May 17, 2009. San Francisco, CA.
141. \*Lisanby, S.H.: TMS today and tomorrow. Association for Convulsive Therapy Annual Meeting. May 17, 2009. San Francisco, CA.

142. \*Lisanby, S.H. and Sampson, S., co-Chairs: TMS Certificate Course. Association for Convulsive Therapy Annual Meeting. May 18, 2009. San Francisco, CA.
143. Kegeles LS, Mao X, Stanford A, Sakr E, Alvarez B, Gil R, Abi-Dargham A, Lisanby SH, Shungu DC: Frontal cortex GABA and glutamate-glutamine levels in schizophrenia measured with magnetic resonance spectroscopy. *Biol Psychiatry* 2009;65:3S
144. Deng, Z.-D., Lisanby, S.H., Peterchev, A.V. Effect of Anatomical Variability on Neural Stimulation Strength and Focality in Electroconvulsive Therapy (ECT) and Magnetic Seizure Therapy (MST). 31st Annual International IEEE EMBS Conference. Sept. 3, 2009. Minneapolis, Minnesota.
145. \*Lisanby, S.H., Peterchev, A., Luber, B., Westin, G., Spellman, T.: Physiological optimization of TMS pulse shape and parameters for therapeutic applications: Controllable pulse shape TMS (cTMS) and magnetic seizure therapy (MST). Abstracts of the 9th World Congress of Biological Psychiatry, 28 June - 02 July, Paris, France. World Federation of Societies of Biological Psychiatry, 2009. DOI 10.3284/wfsbp.2009.1. Abstract # S-59-004, page 62.
146. \*McClintock, S.M., Rodez, C., Cullum, C.M., Husain, M.M., Lisanby, S.H., Bernstein, I., Terrace, H.: The Columbia University Primate Cognitive Battery: Preliminary Report of Its Translation for Use in Humans. International College of Geriatric Psychoneuropharmacology (ICGP), November 2009.
147. \*Lisanby, SH, McClintock SM, Luber B, Morales OG, Thornton LF, White PF, Stool L, Rowny S, Nobler MS, Rush AJ, Husain M: Safety and efficacy of magnetic seizure therapy in the treatment of major depression: Randomized controlled trial of two MST coils. 2009 ACNP Annual Meeting: Hot Topic Presentation.
148. George MS, Lisanby SH, Avery D, McDonald WM, Durkalski V, Pavlicova M, Anderson B, Nahas Z, Bulow P, Zarkowski P, Holtzheimer P, Schwartz T, Sackeim HA: Daily Left Prefrontal TMS For Major Depression: A Sham-Controlled Multi-site Randomized Trial (NIH OPT-TMS). 2009 ACNP Annual Meeting: Voice Poster.
149. \*Cycowicz YM, Peterchev AV, Chen C-M, Luber B, Chan B, Schroeder CE, Lisanby SH: Differences in seizure spread and spectral power in scalp and intracerebral recordings of magnetic seizure therapy (MST) and electroconvulsive therapy (ECT). 2009 ACNP Annual Meeting.

150. Deng Z-D#, Lee WH#, Kim T-S, Lisanby SH, Peterchev AV: Regional differences in electric field strength induced by electroconvulsive therapy (ECT) electrode placements. 2009 ACNP Annual Meeting.
151. Kegeles LS, Mao X, Stanford A, Ojeil N, Alvarez B, Gil R, Abi-Dargham A, Lisanby SH, Shungu DC: Frontal Cortex GABA and Glutamate-Glutamine Levels in Schizophrenia: a Magnetic Resonance Spectroscopy Study. 2009 ACNP Annual Meeting.
152. Johnson, K, Short, E.B., George, M.S., Lisanby, S., Avery, D., McDonald, W., Durlaski, V., Pavlicova, M., Anderson, B., Sporn, A., Zarkowski, P., Schwartz, T., Sackeim, H.A., Nahas, Z. MRI-adjusted TMS coil placement for targeting dorsolateral prefrontal cortex in the treatment of depression. ACNP Annual Meeting. 2009.
153. Kegeles LS, Mao X, Stanford A, Ojeil N, Alvarez B, Castillo F, Gil R, Abi-Dargham A, Lisanby SH, Shungu DC: Frontal Cortex GABA and Glutamate-Glutamine in Schizophrenia: a Magnetic Resonance Spectroscopy Study. ISMRM 2010.
154. Figner, B., Knoch, D., Johnson, E. J., Krosch, A. R., Lisanby, S. H., Fehr, E., and Weber, E. U.: Lateral prefrontal cortex and self-control in intertemporal choice. Behavioral Decision Research in Management Conference 2010. Pittsburgh.
155. \*Mantovani, A., Simeon, D., Urban, N., Allart, A., Bulow, P.M., Lisanby, S.H.: Temporoparietal junction stimulation in the treatment of depersonalization disorder. *Biol Psychiatry* 2010;67:45S. Sixty-Fifth Annual Scientific Convention and Meeting, New Orleans, LA. May 20-22, 2010.
156. Avery, D.H., George, M.S., Lisanby, S.H., McDonald, W.M., Durlaski, V., Pavlicova, M., Anderson, B., Nahas, Z., Bulow, P., Zarkowski, P., Holzheimer, P., Schwartz, T., Sackeim, H.: Daily left prefrontal TMS for major depression: A sham-controlled multi-site randomized trial (NIH Optimization of TMS for Depression Study, OPT-TMS). *Biol Psychiatry* 2010;67:57S. Sixty-Fifth Annual Scientific Convention and Meeting, New Orleans, LA. May 20-22, 2010.
157. \*Mantovani, A., Simpson, B.H., Fallon, B.A., Rossi, S., Lisanby, S.H.: Effect of supplementary motor area modulation on motor cortex excitability I obsessive-compulsive disorder: Relations to clinical improvement. *Biol Psychiatry* 2010;67:215S. Sixty-Fifth Annual Scientific Convention and Meeting, New Orleans, LA. May 20-22, 2010.

158. \*Lisanby, S.H.: Advances in new technologies in psychiatry and minimally invasive therapies. Invited Lecture. American Association for Technology in Psychiatry. 2010 Annual Meeting, May 22, 2010. New Orleans, LA.
159. \*Lisanby, S.H.: Progress Report: Revising the APA Task Force Report on ECT. Invited Lecture. International Society for Neurostimulation (ISN) Annual Meeting. May 23, 2010. New Orleans, LA.
160. \*Lisanby, S.H.: Hot Topics in TMS. Invited Lecture. International Society for Neurostimulation (ISN) Annual Meeting. May 23, 2010. New Orleans, LA.
161. \*Lisanby, S.H.: Regulations and Policies Concerning TMS. Invited Lecture. International Society for Neurostimulation (ISN) TMS Certificate Course. May 24, 2010. New Orleans, LA.
162. George, M.S., Lisanby, S.H., Avery, D.H., McDonald, W.M., Durlaski, V., Pavlicova, M., Anderson, B., Nahas, Z., Bulow, P., Zarkowski, P., Holzheimer, P., Schwartz, T., Sackeim, H.: Daily left prefrontal TMS for major depression: A sham-controlled multi-site randomized trial (NIH Optimization of TMS for Depression Study, OPT-TMS). JECT. 2010;26:152-153. International Society for Neurostimulation (ISN) Annual Meeting. May 23, 2010. New Orleans, LA.
163. Deng, Z.-D., Lisanby, S.H., Peterchev, A.V.: Improving the focality of electroconvulsive therapy: The roles of current amplitude, and electrode size and spacing. JECT. 2010;26:151. International Society for Neurostimulation (ISN) Annual Meeting. May 23, 2010. New Orleans, LA. – Winner of Best Poster by a Trainee Award.
164. \*Peterchev, A.V., Chan, B., Lisanby, S.H.: Pulse amplitude adjustment: A novel means of individualizing and predicting dosage requirements for electroconvulsive therapy and magnetic seizure therapy. JECT. 2010;26:154-155. International Society for Neurostimulation (ISN) Annual Meeting. May 23, 2010. New Orleans, LA.
165. \*Peterchev, A.V., Chan, B., Lisanby, S.H.: Optimal frequency for seizure induction. JECT. 2010;26:154. International Society for Neurostimulation (ISN) Annual Meeting. May 23, 2010. New Orleans, LA.
166. \*Lisanby, S.: Clinical Update on Magnetic Seizure Therapy (MST). Symposia Lecture. 163<sup>rd</sup> Annual Meeting of the APA, New Orleans, LA, May 24, 2010. Syllabus Book, Abstract No. 56-B, page 108.



167. \*Lisanby, S.H. Optimal electrode placement in the administration of ECT. Symposia Lecture. 163<sup>rd</sup> Annual Meeting of the APA, New Orleans, LA, May 25, 2010. Syllabus Book, Abstract No. 564-C, page 120.
168. \*Lisanby, S.: How do you create a TMS Sham? Symposia Lecture. 163<sup>rd</sup> Annual Meeting of the APA, New Orleans, LA, May 24, 2010. Syllabus Book, Abstract No. 83-D, page 154.
169. Janicak, P.G., Nahas, Z., Lisanby, S.H., Solvason, B., Sampson, S.M., McDonald, W.M., Marangell, L.B., Rosenquist, P., McCall, W.V., Kimball, J., O'Rearadon, J.P., Loo, C., Husain, M.H., Krystal, A., Gilmer, W., Dowd, S.M., Demitrak M.A., Schatzberg, A.F. Long-term durability of acute response to transcranial magnetic stimulation (TMS) in the treatment of pharmacoresistant major depression. 163<sup>rd</sup> Annual Meeting of the APA, New Orleans, LA, May 24, 2010. New Research Abstract Book, Abstract #NR7-46, page 237.
170. \*Lisanby, S.H. Back to the Future: Brain Stimulation in Psychiatry. Invited Lecture. June 15, 2010. 50<sup>th</sup> Anniversary Meeting. NCDEU, Boca Raton, FL. 2010.
171. \*Chen, C.-M., Kegeles, L., Lisanby, S.H.: GABA, Neuronal synchrony and neurocognitive efficiency in schizophrenia. Poster Presentation. 50<sup>th</sup> Anniversary Meeting. NCDEU, Boca Raton, FL. 2010.
172. \*Rosa, M.A., Schroeder, C.S., Lisanby, S.H.: Theta-burst stimulation for the treatment of depression: Efficacy, safety and mechanisms. Poster Presentation. 50<sup>th</sup> Anniversary Meeting. NCDEU, Boca Raton, FL. 2010.
173. McClintock, S.M., Cullum, C.M., Rodez, C., Lisanby, S.H., Husain, M.M., Bernstein, J., Terrace, H.: Associations between Human Demographic Characteristics and Performance on the Columbia University Primate Cognitive Battery. International College of Geriatric Psychoneuropharmacology (ICGP) 10th Annual Meeting, Athens, Greece, September 2010.
174. \*Rosa, M.A., Peterchev, A.V., Lisanby, S.H., 2010. Novel paradigms for optimizing magnetic seizure therapy (MST): theta burst stimulation. Wisconsin Sympos Emot.
175. \*Kegeles, L, Chen, C-M., Mao, X., Stanford, A., Shungu, D., Lisanby, S.H.: GABA, Neuronal Synchrony, and Working Memory Performance in Schizophrenia. American College of Neuropsychopharmacology (ACNP) 49<sup>th</sup> Annual Conference, Miami Beach, Florida. Neuropsychopharmacology (2010) 35: S141-2.

176. \*Luber, B., Lou, H., Allart, A., Keenan, J., Lisanby, S.H.: Role of Medial Prefrontal and Parietal Cortex in Self-Enhancement Bias. American College of Neuropsychopharmacology (ACNP) 49<sup>th</sup> Annual Conference, Miami Beach, Florida. *Neuropsychopharmacology* (2010) 35: S220-1.
177. \*McClintock, S., DeWind, N., Terrace, H., Husain, M., Spellman, T., Rowny, S., Lisanby, S.H.: Disruption of Spatial Working Memory Component Processes by Electroconvulsive but not Magnetic Seizure Therapy. American College of Neuropsychopharmacology (ACNP) 49<sup>th</sup> Annual Conference, Miami Beach, Florida. *Neuropsychopharmacology* (2010) 35: S158-9.
178. \*Stanford, A.D., Luber, B., Moeller, J., Malaspina, D., Lisanby, S.H.: Reward Circuit Functional Connectivity in Healthy Subjects. American College of Neuropsychopharmacology (ACNP) 49<sup>th</sup> Annual Conference, Miami Beach, Florida. *Neuropsychopharmacology* (2010) 35: S366-7
179. Kegeles, L., Mao, X., Stanford' A., Ojeil, H., Alvarez, B., Girgis, R.R., Gil, R., Abi-Dargham, A., Lisanby, S.H., Shungu' D. C.: <sup>1</sup>H MRS Provides Evidence of Altered Frontal Cortex GABA and Glutamate-Glutamine in Schizophrenia In Vivo. International Society for Magnetic Resonance in Medicine. 2011.
180. Agarkar, S., Hurt, S., Lisanby, S.H., Young, R.C.: ECT in Unipolar And Bipolar Depressed Patients: Rate Of Response. 66<sup>th</sup> Annual Meeting. Society of Biological Psychiatry. San Francisco, California. May 12-14, 2011.
181. Mantovani, A., Aly, M., Degan, Y., Allart, A., Bernhardt, E., Bulow, P., Rossi, S., Lisanby, S.H.: Randomized Sham Controlled trial of Transcranial Magnetic Stimulation (TMS) to the Dorsolateral Prefrontal Cortex for the Treatment of Panic Disorder with comorbid Major Depression. 66<sup>th</sup> Annual Meeting. Society of Biological Psychiatry. San Francisco, California. May 12-14, 2011.
182. Rosa, M.A., Abdo, G., Lisanby, S.H., Peterchev, A.V.: Seizure induction with low-amplitude-current electroconvulsive therapy: a case series. International Society for ECT and Neurostimulation (ISEN). 2011.
183. \*Lisanby, S.H.: Distinguished Psychiatrist Lecture. "Electrifying Psychiatry: What Wilder Penfield, James Maxwell, and Ugo Cerletti have in common." 164<sup>th</sup> Annual Meeting of the American psychiatric Association. May 17, 2011. Honolulu, Hawaii.
184. \*Lisanby, S.H.: Magnetic Approaches to Depression Treatment: Transcranial Magnetic

Stimulation and Magnetic Seizure Therapy. Invited Lecture. NIMH Research – Research update: New Developments in the Treatment of Mood Disorders. May 16, 2011.

185. Deng, Z.-D., Lisanby, S.H., Peterchev, A.V., 2011. Comparative electric field characteristics of deep transcranial magnetic stimulation coils. To be presented at the 14th European Congress on Clinical Neurophysiology and 4th International Conference on Transcranial Magnetic and Direct Current Stimulation, Rome, Italy, June 20-25, 2011. Winner of Best Poster Award.
186. \*Mantovani, A., Kegeles, L.S., Simpson, B.H., Allart, A., Harrison, A., Rossi, S., Lisanby, S.H.: Modulation of premotor GABAergic circuits in Obsessive-Compulsive Disorder (OCD) via Transcranial Magnetic Stimulation. To be presented at the 14th European Congress on Clinical Neurophysiology and 4th International Conference on Transcranial Magnetic and Direct Current Stimulation, Rome, Italy, June 20-25, 2011.
187. \*Luber, B., Lou, H.C., Keenan, J., Lisanby, S.H.: Transcranial magnetic stimulation reveals two distinct forms of self-related processing within the default network. 14th European Congress on Clinical Neurophysiology and 4th International Conference on Transcranial Magnetic and Direct Current Stimulation, Rome, Italy, June 20-25, 2011. Winner of Best Poster Award.
188. \*Peterchev, A.V., Westin, G.G., Luber, B., Lisanby, S.H.: Corticospinal response characterization with controllable pulse parameter transcranial magnetic stimulation (cTMS). 14th European Congress on Clinical Neurophysiology and 4th International Conference on Transcranial Magnetic and Direct Current Stimulation, Rome, Italy, June 20-25, 2011. Winner of Best Poster Award.
189. \*Kegeles, L.S., Chen, C., Mao, X. Stanford, A., Shungu, D.C., Lisanby, S.H.: Frontal Cortex GABA, Oscillations, and Working Memory in Schizophrenia. 13th International Congress on Schizophrenia Research. Colorado Springs, Colorado. Oral Presentation. April 2-6, 2011.
190. Lee, W. H., Deng, Z.-D., Laine, A., Lisanby, S., Peterchev, A.V.: Influence of white matter conductivity anisotropy on electric field strength by electroconvulsive therapy. Conference Proceedings IEEE Eng Med Biol Sci. 2011. Oral Presentation at the 33rd Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC'11), Boston, MA, USA on August 30 - September 3, 2011.
191. Christopher, P.C., Fisher, C.E., Appelbaum, P.S., Holtzheimer, P.E., Mayberg, H.S., Lisanby,

- S.H., Dunn, L.B.: Decisional Capacity to Enroll in Deep Brain Stimulation Research for Treatment Resistant Depression. American College of Neuropsychopharmacology (ACNP) 50<sup>th</sup> Annual Conference, Hawaii. Neuropsychopharmacology (2011).
192. \*Lisanby, S.H. Plenary speaker. Neuropsychopharmacology Reviews: Neurotherapeutics Teaching Day Talk Title: Translational Development of Transcranial Approaches to Depression Treatment. American College of Neuropsychopharmacology (ACNP) 50<sup>th</sup> Annual Conference, Hawaii. Neuropsychopharmacology (2011).
193. \*Luber, B., Tucker, A., Steffner, J., Habeck, C., Rakitin, B., Deng, Z-D., Basner, R.C., Stern, Y., Lisanby, S.H.: fMRI Evidence of a Long-Lasting Remediation of Sleep Deprivation-Induced Performance Deficits in a Working Memory Task Caused by rTMS. American College of Neuropsychopharmacology (ACNP) 50<sup>th</sup> Annual Conference, Hawaii. Neuropsychopharmacology (2011).
194. McClintock, S.M., Lisanby, S.H., Bernstein, I., Cullum, M., Chansard, M., Staub, B., Terrace, H., Husain, M.M.: Developing Translational Neurocognitive Measures Specific and Sensitive to Electroconvulsive Therapy. American College of Neuropsychopharmacology (ACNP) 50<sup>th</sup> Annual Conference, Hawaii. Neuropsychopharmacology (2011).
195. Nahas, Z., Short, B., Burns, C., Archer, M., Schmidt, M., Prudic, J., Nobler, M.S., Devanand, D.P., Fitzsimons, L., Lisanby, S.H., Payne, N., Perera, T., George, M.S., Sackeim, H.A.: First Human Use of Focal electrically-administered seizure therapy [FEAST] Shows Feasibility, Safety and Clinical Benefits. American College of Neuropsychopharmacology (ACNP) 50<sup>th</sup> Annual Conference, Hawaii. Neuropsychopharmacology (2011).
196. Moore, P. S., Cullum, C. M., Chansard M., Lisanby, S.H., Bernstein, I., Terrace, H., Husain, M.M., & McClintock, S.M. (2012, February). From basic to clinical science: translating neurocognitive measures to understand the cognitive effects of electroconvulsive therapy. Poster presented at International Neuropsychological Society (INS) 40<sup>th</sup> Annual Meeting, Montreal, Quebec.
197. Friel, K.M., Kuo, H.-C., Bassi, B., Murphy, D.L.K, Luber, B.L., Carmel, J.B., Gowatsky, J.L., Stanford, A.D., Rowny, S.B., Schroeder, C.E., Gordon, A.M., Lisanby, S.H.: Changes in the organization and excitability of the corticospinal system associated with intensive bimanual training

in children with hemiplegic cerebral palsy. Society for Neuroscience, 2011.

198. Friel, K.M., Kuo, H.-C., Bassi, B., Murphy, D.L.K, Luber, B.L., Carmel, J.B., Gowatsky, J.L., Ferre, C.L., Stanford, A.D., Rowny, S.B., Lisanby, S.H., Gordon, A.M.: Changes in the organization and excitability of the corticospinal system associated with intensive bimanual training in children with hemiplegic cerebral palsy. American Academy of Cerebral Palsy and Developmental Medicine conference (September 2012, Toronto).
199. Friel, K.M., Kuo, H.-C., Bassi, B., Murphy, D.L.K, Luber, B.L., Carmel, J.B., Gowatsky, J.L., Ferre, C.L., Stanford, A.D., Rowny, S.B., Lisanby, S.H., Gordon, A.M.: Persistent changes in motor cortex representations after bimanual training in children with hemiplegia. 4th International CP Conference (in Pisa, Italy, October 10-14, 2012).
200. Kuo, H.-C., Ferre, C.L., Carmel, J.B., Gowatsky, J.L., Stanford, A.D., Rowny, S.B., Lisanby, S.H., Gordon, A.M., Friel, K.M.: Using diffusion tensor imaging to visualize responsive motor pathways in children with hemiplegia. 4th International CP Conference (in Pisa, Italy, October 10-14, 2012).
201. Rosa, M.A., Abdo, L., Rosa, M.O., Lisanby, S.H., Peterchev, A.V.: Frontomedial electrode placement with low current amplitude: a case report. 22nd Annual Meeting of the International Society for Electroconvulsive Therapy and Neurostimulation. JECT. 2012;28:144-150.
202. \*Peterchev, A.V., Chan, B., Luber, B., Deng, Z.-D., Schroeder, C.E., Lisanby, S.H.: Measurement of intracerebral electric field induced by electroconvulsive therapy. 22nd Annual Meeting of the International Society for Electroconvulsive Therapy and Neurostimulation. JECT. 2012;28:144-150.
203. Lee, W.-H., Lisanby, S.H., Curtis, R.M., Laine, A.F., Peterchev, A.V.: Stimulation strength in hippocampus of various ECT electrode configurations computed in a realistic head model. 22nd Annual Meeting of the International Society for Electroconvulsive Therapy and Neurostimulation. JECT. 2012;28:144-150.
204. \*Kellner, C.H., Briggs, M.C., Pasculli, R.M., Knapp, R.G., McCall, W.V., Husain, M.M., Petrides, G., Sampson, S., Young, R.C., Greenberg, R.M., McClintock, S.M., Mueller, M., Tobias, K.G., Weiner, R.D., Prudic, J., Lisanby, S.H.: Efficacy of Right Unilateral Ultrabrief Pulse Electroconvulsive Therapy (ECT): Data from Phase I of the PRIDE Study. 22nd Annual Meeting of

- the International Society for Electroconvulsive Therapy and Neurostimulation. JECT. 2012;28:144-150.
205. \*Lisanby, S.H.: Neuromodulation in Psychiatry Practice. Invited Symposium presentation. Advances in Research Series. 165<sup>th</sup> Annual Meeting, American Psychiatric Association. Philadelphia, PA, May 7, 2012.
206. \*Lisanby, S.H.: Clinical Neuromodulation: What Every Clinician Should Know. Symposium Chair. Symposium 59. 165<sup>th</sup> Annual Meeting, American Psychiatric Association. Philadelphia, PA, May 7, 2012.
207. \*Lisanby, S.H.: Clinical Neuromodulation: Present Realities and Future Promise. Symposium presentation. Symposium 59. 165<sup>th</sup> Annual Meeting, American Psychiatric Association. Philadelphia, PA, May 7, 2012.
208. \*Lisanby, S.H.: TMS Beyond the FDA Label: Consensus Guidelines for Best Clinical Practice. Workshop #111 Presenter. 165<sup>th</sup> Annual Meeting, American Psychiatric Association. Philadelphia, PA, May 8, 2012.
209. Lee, W.H., Lisanby, S.H., Laine, A.G., Peterchev, A.V.: Stimulation strength and focality of electroconvulsive therapy with individualized current amplitude: A preclinical study. EMBC. 2012.
210. Kegeles, L.S., Chen, C.-M., Mao, X., Ojeil, N., Gil, R., Slifstein, M., Abi-Dargham, A., Stanford, A., Lisanby, S., Schroeder, C., Shungu, D.C.: GABA Abnormalities in Schizophrenia: Relation to Function. ICOSR 2012 Symposium submission.
211. Kellner, C.K., Liebman, L.S., Nazarian, R.S., Knapp, R.G., McCall, W.V., Husain, M.M., Petrides, G., Young, R.C., Greenberg, R.M., Weiner, R., Prudic, J., Rudorfer, M.V., Lisanby, S.H. Efficacy of Right Unilateral Ultra brief Pulse Electroconvulsive Therapy (ECT): Data from Phase 1 of the PRIDE Study. American Association for Geriatric Psychiatry 2012.
212. Lee, W. H., Lisanby, S. H., Laine, A. F., and Peterchev, A. V. Finite element model of the rhesus macaque head: electroconvulsive therapy electric field simulation. Human Brain Mapping Conf 2012.
213. \*McClintock, S.M., Husain, M.M., Cullum, C.M., Lubner, B., Croarkin, P., Peterchev, A., Trevino, K., Aly, M., Stool, L, Raza, A., Lisanby, S.H.: Comparison of the Neurocognitive Effects between Acute Course Magnetic Seizure Therapy and Electroconvulsive Therapy: A Preliminary

Report. American College of Neuropsychopharmacology 51<sup>st</sup> Annual Meeting, December 4, 2012.

Program Number: 201.

214. Stanford, A.D., Lisanby, S.H., Malaspina, D., Cycowicz, Y.M.: Expectation and Hedonics Activate Specific Neural Networks during Reward. American College of Neuropsychopharmacology 51<sup>st</sup> Annual Meeting, December 5, 2012. Program Number: 120.
215. McClintock SM, Husain MM, Chansard M, Bernstein I, Terrace H, Lisanby SH, Cullum M. The Effects of Human Demographic Characteristics on Translated Neurocognitive Measures Specific for Electroconvulsive Therapy. International Society for CNS Clinical Trials and Methodology (ISCTM) 9<sup>th</sup> Annual Scientific Meeting, Washington, DC, February 2013.
216. \*Taylor, S.F., Spino, C.A., Reti, I., Morales, O., Short, B., Dubin, M., Hawkins, J.M., Bhati, M., Lisanby, S.H.: A multi-site, naturalistic study of rTMS for major depressive disorder. 68<sup>th</sup> Annual Scientific Convention and Meeting, Society for Biological Psychiatry, San Francisco, CA, May 1, 2013. *Biological Psychiatry* 2013;73:159S.
217. Weigand, A., Grimm, S., Astalosch, A., Guo J.S., Briessemeister, B., Lisanby, S.H., Luber, B., Bajbouj, M.: Lateralized effects of prefrontal repetitive transcranial magnetic stimulation on emotional working memory. 68<sup>th</sup> Annual Scientific Convention and Meeting, Society for Biological Psychiatry, San Francisco, CA, May 1, 2013. *Biological Psychiatry* 2013;73:161S.
218. Mueller M, Zhao W, Kellner CH, Lisanby SH, Teklehaimanot A, Knapp RG. Enhanced protocol compliance in a complex clinical trial using web-based response adaptive treatment instructions. Society of Clinical Trials 34th Annual Meeting; 2013 May 19; Boston, Mass.
219. \*Kellner, C.H., Knapp, R.G., Mueller, M., McCall, W.V., Petriedes, G., Husain M.M., Young, R.C., Greenberg, R.M., McClintock S.M., Prudic, J., Weiner, R.E., Rosenquist, P.B., Bailine, S.H., Rudorfer, M.V., Lisanby, S.H., Prolonging Remission in Depressed Elderly (PRIDE) Group: Improvement in depression ratings after the first electroconvulsive therapy (ECT): Preliminary data from Phase 1 of the PRIDE Study. Annual Meeting of the International Society for ECT and Neurostimulation, San Francisco, May 2013. *J ECT*;2013;29:150.
220. Lee, W.H., Lisanby, S.H., Laine, A.F., Peterchev, A.V.: Anatomical variability predicts individual differences in ECT seizure threshold: A combined preclinical and computational modeling study. Annual Meeting of the International Society for ECT and Neurostimulation, San

Francisco, May 2013. *J ECT*;2013;29:150-1.

221. \*Lisanby, S.H., Mueller, M., Husain, M.M., Knapp, R.G., McCall, W.V., Petrides, G., Young R.C., Greenberg, R. M., Sampson, S., McClintock, S., Prudic, J., Weiner, R.D., Rudorfer, M., Kellner, C.H., Prolonging Remission in Depressed Elderly (PRIDE) Group: Low seizure threshold with ultra-brief pulse right unilateral ECT in the elderly: Preliminary data from Phase 1 of the PRIDE study. Annual Meeting of the International Society for ECT and Neurostimulation, San Francisco, May 2013. *J ECT*;2013;29:151.
222. \*McClintock, S., M., Kellner, C.H., Knapp, R.G., Husain, M.M., Weiner, R.D., Petrides, G., Young, R.C., McCall, W.V., Sampson, S., Prudic, J., Bernhardt, E., Tobias, K., Mueller, M., Lisanby, S.H. Prolonging Remission in Depressed Elderly (PRIDE) Group: Effects of acute course electroconvulsive therapy on global cognitive function in elderly adults with depression. Annual Meeting of the International Society for ECT and Neurostimulation, San Francisco, May 2013. *J ECT*;2013;29:151-2.
223. \*McClintock, S., Husain, M.M., Cullum, C.M., Peterchev, A., Bernstein, I., Stool, L., Luber, B., Croarkin, P., Bernhardt, E., Trevino, K., Lisanby, S.H.: The Effects of an Index Course Magnetic Seizure Therapy and Electroconvulsive Therapy on Verbal Learning and Memory. American College of Neuropsychopharmacology Annual Meeting, December 2013.
224. Goetz, S., Luber, B., Lisanby, S.H., Kozyrkov., C.I., Grill, W.M., Peterchev, A.V.: Enhancement of rTMS neuromodulatory effects with novel waveforms demonstrated via controllable pulse parameter TMS (cTMS). *Neuropsychopharmacology*. 2013;38:S246. American College of Neuropsychopharmacology Annual Meeting, December 2013.
225. Lisanby, S.H. (Panel Chair). At the Crossroads of Physics, Physiology, and Psychiatry: Rational Design of Noninvasive Neuromodulation Therapies. American College of Neuropsychopharmacology Annual Meeting, December 2013. Accepted for presentation
226. Lee, W. H., Lisanby, S. H., Laine, A. F., and Peterchev, A. V. Anatomical variability predicts individual differences in transcranial electric stimulation motor threshold. *IEEE Eng Med Biol Conf* 2013. (In press).
227. Lee, W. H., Lisanby, S. H., Laine, A. F., and Peterchev, A. V. Electric field characteristics of electroconvulsive therapy with individualized current amplitude: A preclinical study. *IEEE Eng Med*



Biol Conf 2013. (In press).

228. Rosenquist, P.B., Vaughn McCall, W.V., Kellner, C.H., Knapp, R.G., Mueller, M., Petrides, G., Husain, M.M., Young, R.C. Greenberg, R.M., McClintock, S.M., Prudic, J., Weiner, R.D., Lisanby, S.H., Prolonging Remission in Depressed Elderly (PRIDE) Group: Quality of Life in Geriatric Depression: Preliminary Data from Phase I of the PRIDE Study. International Society for ECT and Neurostimulation. *J ECT*. 2014. 30(3):254.
229. Lisanby, S. H., Lee, W.H., Deng, Z.-D., Peterchev, A.V.: Individualized low amplitude seizure therapy (iLAST) – Magnetic and electrical approaches to enhance focality and safety for depression treatment. Society for Biological Psychiatry Annual Meeting, New York, NY. *Biol Psychiatry* 2014;75:153S. Oral Presentation Abstract #552.
230. Leuchter, A., Philips, B., Cook, I., Feifel, D., Goethe, J., Husain, M., Carpenter, L., Thase, M., Burcke, W., Sheline, Y., Aaronson, S., Iosifescu, D., Gilmer, W. Lisanby, S., George, M.: Effectiveness of synchronized transcranial magnetic stimulation (sTMS) for treatment of major depression. Society for Biological Psychiatry Annual Meeting, New York, NY. *Biol Psychiatry* 2014;75:120S. Poster Presentation Abstract #376.
231. Lisanby, S.H., Husain, M.M., Knapp, R.G., Young, R.C., Weiner, R., McClintock, S.M., Greenberg, R.M., Sampson, S., Prudic, J., Rudorfer, M.V., Kellner, C.H., Prolonging Remission in Depressed Elderly (PRIDE) Group: Ultrabrief right unilateral ECT in geriatric depression: Antidepressant and cognitive outcomes. Society for Biological Psychiatry Annual Meeting, New York, NY. *Biol Psychiatry* 2014;75:21S. Oral Presentation Abstract #61.
232. Lisanby, S.H.: "Magnets, Mood, and Memory: Roles for rTMS and Magnetic Seizure Therapy in Geriatric Psychiatry." Invited Presentation on APA Symposium "Advances in Geriatric Psychiatry". APA Annual Meeting, New York, NY, May 5, 2014.
233. Lisanby, S.H., and Husain, M.: Invited Interactive Session Chair. "Brain Stimulation Techniques." APA Annual Meeting, New York, NY, May 6, 2014.'
234. Lisanby, S.H.: Interactive Presentation. "Neuromodulatory Devices: The Devil is the Dosing. NIMH Research Track - Novel Therapeutics for Psychiatric Disorders: Discovery through Development. APA Annual Meeting, New York, NY, May 6, 2014.
235. Deng, Z.-D., McClintock, S., Luber, B., Krystal, A., Husain, M., Lisanby, S.H.: Resting-State

EEG Graph Theory Analytic Correlates and Predictors of Response to Seizure Therapy.

Organization of Human Brain Mapping 2014 Annual Meeting, Hamburg, Germany, June 8-12, 2014.

Poster Listing page 43, poster #1352.

236. Lee, W.H., Lisanby, S., Laine, A.F., Peterchev, A.V.: Stimulation Strength and Focality of Electroconvulsive Therapy and Magnetic Seizure Therapy in a Realistic Head Model. 36th Annual International IEEE EMBS Conference. August 27, 2014.
237. Kegeles, L.S., Mao, X., Ojeil, N., Massuda, R., Pedrini, M., Stanford, A., Girgis, R., Gil, R., Lisanby, S.H., Chen, C.M., Slifstein, M., Abi-Dargham, A., Rodriguez, C., Milak, M., Shungu, D.C.: Finding the sites of glutamate circuitry abnormality in schizophrenia with proton MRS. *Schizophrenia Bulletin*. 2015. 41:S260.
238. Kegeles, L.S., Mao, X., Ojeil, N., Bayatmokhtari, M., Stanford, A., Girgis, R., Gil, R., Lisanby, S.H., Chen, C.M., Slifstein, M., Abi-Dargham, A., Rodriguez, C., Milak, M., Shungu, D.C.: GABA and glutamate dysfunction in schizophrenia: Distinguishing medication effects from neurobiology. *Schizophrenia Bulletin*. 2015. 41:S259-260.
239. Leuchter, A.F., Cook, I.A., Feifel, D., Goethe, J.W., Husain, M., Carpenter, L.L., Thase, M.E., Krystal, A.D., Philip, N.S., Hunter, A.M., Burke, W.J., Howland, R.H., Sheline, Y.I., Aaronson, S.T., Iosifescu, D.V., O'Reardon, J., Gilmer, W.S., Jain, R., Bugoyne, K., Massaro, J., Lisanby, S.H., George, M.S.: Can We Use Brain Oscillations to Guide Treatment of MDD? *Biological Psychiatry*. 2015. 77(9):37S-38S.
240. Leuchter, A.F., Phillips, B., Jin, Y., Cook, I.A., Feifel, D., Goethe, J.W., Husain, M., Carpenter, L.L., Thase, M.E., Krystal, A.D., Burke, W., Howland, R.H., Sheline, Y.I., Jain, R., Aaronson, S.T., Iosifescu, D.V., O'Reardon, J., Gilmer, W.S., Burgoyne, K., Lisanby, S.H., George, M.S.: Safety and Efficacy of Synchronized Transcranial Magnetic Stimulation for the Treatment of Major Depressive Disorder. *Brain Stimulation*. 2015. 8(2):404.
241. Peterchev, A.V., Sikes-Keilp, C., Rosa, M.A., Lisanby, S.H.: Re-evaluating the Electroconvulsive Therapy Stimulus: Frequency and Directionality. *Biological Psychiatry*. 2015. 77(9): 23S.
242. Deng, Z.D., McClintock, S.M., Lisanby, S.H.: Ictal EEG Correlates of Neurocognitive Outcome in Electroconvulsive Therapy and Magnetic Seizure Therapy. *Biological Psychiatry*. 2015.

77(9):113S

243. Kellner, C., Geduldig, E., Knapp, R., Young, R., Weiner, R., Greenberg, R., Prudic, J., McCall, W.V., Petrides, G., Husain, M., Rudorfer, M., Lisanby, S.H.: S. 05.04 Prolonging remission in depressed elderly (PRIDE; NCT01028508). *European Neuropsychopharmacology*. 2015. 25:S117.
244. McClintock, S., Pierson, M., Erkanli, A., Deng, Z.D., Lubner, L., Husain, M., Lisanby, S.H.: Comparing the Effects of an Index Course of Magnetic Seizure Therapy and Electroconvulsive Therapy on Quality of Life. *American College of Neuropsychopharmacology Annual Meeting*, December 2015. *Neuropsychopharmacology* 40, S148-S149
245. Deng, Z.D., McClintock, S., Lisanby, S.H.: Connectivity Analysis of EEG in Depressed Patients Receiving Electroconvulsive Therapy and Magnetic Seizure Therapy. *American College of Neuropsychopharmacology Annual Meeting*, December 2015. *Neuropsychopharmacology* 40, S486-S486
246. Lubner, B, Davis, S., Lisanby, S.H.: Working memory enhancement in young and older adults using rTMS. P238. 6<sup>th</sup> International Conference on Transcranial Brain Stimulation. Sept 7-10, 2016, Göttingen, Germany.
247. Deng, Z.D., Davis, S.W., Asturias, G., Glidewell, M.M., Liston, C., Lisanby, S.H., Dubin, M.J.: Effect of rTMS on the Structural Connectome in Patients with Major Depressive Disorder. P273. 6<sup>th</sup> International Conference on Transcranial Brain Stimulation. Sept 7-10, 2016, Göttingen, Germany.
248. McClintock SM, Martin DM, Alonzo A, Lisanby SH, Husain MM, Aaronson S, McDonald WM, O'Reardon JP, Loo CK. Neurocognitive Effects of Transcranial Direct Current Stimulation (tDCS) in Unipolar and Bipolar Depression: Results from an International Randomized Controlled Trial. *Society for Biological Psychiatry (SOBP) 72<sup>nd</sup> Annual Scientific Convention*, San Diego, California, May 2017.
249. Loo C, Lisanby S, Husain M, McDonald W, Aaronson S, O'Reardon J, Martin D, Alonzo A, McClintock S, Weickert C. Efficacy of transcranial Direct Current Stimulation (tDCS) in Unipolar and Bipolar Depression: Results from an International Randomized Controlled Trial. *Society for Biological Psychiatry (SOBP) 72<sup>nd</sup> Annual Scientific Convention*, San Diego, California, May 2017. Selected for Oral Presentation.
250. Neacsu AD, Rosenthal MZ, Szabo S, LaBar K, Lisanby S: Neurostimulation enhanced

- cognitive restructuring: A proof of concept study. Society for Biological Psychiatry (SOBP) 74<sup>th</sup> Annual Scientific Convention, Chicago, IL, May 2019.
251. Balderston NL, Roberts C, Masi E, Deng Z-D, Radman T, Luber B, Lisanby SH, Ernst M, Grillon C: A causal link between right dlPFC activity and anxiety expression revealed using repetitive transcranial magnetic stimulation. Society for Biological Psychiatry (SOBP) 74<sup>th</sup> Annual Scientific Convention, Chicago, IL, May 2019.
252. Beynel, L., Davis, S.W., Crowell, C.A., Dannhauer, M., Lim, W., Palmer, H., Hilbig, S.A., Brito, A., Hile, C., Luber.B., Lisanby, S.H., Peterchev, A.V., Cabeza, R., Appelbaum, L.G. (2019). Testing the feasibility and efficacy of a new dosing approach for rTMS. Carolina Neurostimulation Conference, Chapel Hill, NC, USA.
253. Dannhauer, M., Gomez, L., Lim, W., Beynel, L., Crowell, C.A., Davis, S.W., Palmer, H., Hilbig, S.A., Brito, A., Hile, C., Luber, B., Lisanby, S.H., Cabeza, R., Appelbaum, L.G., Peterchev, A.V. (2019). Computational approaches for targeting brain areas in transcranial magnetic stimulation to brain areas across subjects. Carolina Neurostimulation Conference, Chapel Hill, NC, USA.
254. Beynel, L., Davis, S.W., Crowell, C.A., Hilbig, S.A., Palmer, H., Brito, A., Hile, C., Lim, W., Nguyen, D., Dannahauer, M., Peterchev, A.V., Cabeza, R., Lisanby, S.H., Luber, B., Appelbaum, L.G. Site-, timing-, and load-specific effects of online repetitive transcranial magnetic stimulation (RTMS) on working memory (WM). Society for Neuroscience Nanosymposium presentation. Oct 23, 2019. Chicago, IL.
255. Balderston, N., Beydler, E., Goodwin, M., Deng, Z-D., Radman, T., Luber, B., Lisanby, S., Ernst, M., Oathes, D., Sheline, Y., Grillon, C.: High-Frequency rTMS to the Right dlPFC Increases Anxiety Potentiated Startle in Healthy Volunteers. American College of Neuropsychopharmacology Annual Meeting, Dec 9, 2019, Orlando, Florida.
256. McClintock, S., Husain, M., Cullum, C.M., Kallioniemi, E., Greer, T., Lisanby, S.: Cognitive Control Across the Spectrum of Major Depressive Disorder. American College of Neuropsychopharmacology Annual Meeting, Dec 9, 2019, Orlando, Florida.
257. McClintock SM, Gregg AP, Kellner CH, Cullum CM, Palka JM, Knapp RG, Dooley M, Mueller M, Teklehaimanot AA, Weiner RD, Bernhardt E, Petrides G, Husain MM, McCall WV, Young RC,

- Prudic J, Rosenquist, Lisanby SH. Acute Effects of Electroconvulsive Therapy and Venlafaxine on Verbal Learning and Memory Dimensions in Older Adults with Major Depressive Disorder. American College of Neuropsychopharmacology Annual Meeting. Virtual Meeting. December 2020.
258. Luber, B., Beynel, L., Appelbaum, L.G., Deng, Z.-D. , Jones, T., Harrison, A., Lo, E., McKinley, A. R., & Lisanby, S.H. (2021). Individualized alpha frequency rTMS to the inferior frontal junction enhances visual search. 27th Annual Meeting of Organization of Human Brain Mapping. June 2021.
259. Robins, P.L., Lisanby, S.H., Deng, Z.-D. Quantifying aliasing in paper electroencephalography (EEG) during electroconvulsive therapy (ECT). International Society for Electroconvulsive Therapy and Neuromodulation (ISEN) Annual meeting. New York, NY. May 2024.
260. Beynel, L., Luber, B., Gura, H., Rezaee, Z., Ekpo, E., Deng, Z., Joseph, J., Taylor, P., Lisanby, S. When the target is a moving target: Practical issues in using task fMRI for rTMS targeting. OHBM. Seoul, Korea. June 24, 2024.
261. Francis, S.M., Menon, S.M., Beynel, L., Robins, P.L., Deng, Z.-D., Thurm, A., White, T., Pereira, F., Oberman, L., Lisanby, S.H. Identifying domain-specific nodes using network controllability to determine potential TMS targets for ASD. International Society for Autism Research Annual Meeting. Melbourne, Victoria, Australia. May 15-18, 2024.