Marom Bikson April 2024
Shames Professor
Department of Biomedical Engineering
The City College of New York of the City University of New York
Center for Discovery and Innovation
85 Saint Nicholas Terrace CDI 3.366
New York, NY 10031-1246

EMAIL: bikson@ccny.cuny.edu

TWITTER: @marombikson
HOME: neuralengr.org/bikson
LAB: neuralengr.org
NONPROFIT: safetoddles.org
CONFERENCE: neuromodec.org
CORPORATE: soterixmedical.com

Ph.D. in Biomedical Engineering 2000
Case Western Reserve University, Cleveland, OH
Thesis title: Role of non-synaptic mechanisms in the generation and control of epileptiform activity.

B.S. in Biomedical Engineering (Electrical Engineering Concentration) 1995
Johns Hopkins University, Baltimore, MD

Research Experience/Appointments:

(Shames) Professor of Biomedical Engineering 2014-present
The City College of New York of the City University of New York.
New York, N.Y. (2017)

Associate Professor of Biomedical Engineering 2008-2014
The City College of New York of the City University of New York.
New York, N.Y.

Associate Professor, Programs in Engineering and Biology – Neuroscience 2008-2014
The Graduate School of the University Center of the City University of New York
New York, N.Y.

Co-Founder, Board Member 2009-present
Soterix Medical Inc. (SMI)
New York, NY

Harold Shames Assistant Professor of Biomedical Engineering 2003-2007
The City College of New York of the City University of New York.
New York, N.Y.

Assistant Professor, Programs in Engineering and Biology - Neuroscience 2003-2007
The Graduate School of the University Center of the City University of New York

New York, N.Y.

Post-Doctoral Research Fellow 2000 – 2003
Prof. J.G.R. Jefferys, Neurophysiology Unit, University of Birmingham
Birmingham, U.K.

NIH/Whitaker Trainee. 1996-2000
Prof. D.M. Durand, Neural Engineering Center, Case Western Reserve University
Cleveland, OH.

Research Associate. 1995-1996
Sontra Medical, L.P., Cambridge, MA.

Laboratory Technician. 1994-1995
Microfabrication Laboratory, Prof. N. Sheppard, Johns Hopkins University
Baltimore, MD.

Research Support:

[Small Grants indicated separately under *Awards/Honors]*

Current:

Automated Thermomechanical (Multi-phases, center)
PI Marom Bikson
Agency/Mechanism: Ceragem (Clinica)l
Period/Cost (Direct) 2/1/2023-3/1/2025 $1.14m
Scope: Simulation, imaging, clinical trial of automated thermo-mechanical device.

"Early Intervention Orientation and Mobility App with Pediatric Belt Cane-Smart Belt"
PI: Abhi Datta (Soterix Medical), Grace Ambrose-Zaken (Safe Toddles), co-PI Marom Bikson
Agency/Mechanism: U.S. Department of Education: Institute of Education Sciences Small Business Innovation Research Program ED/IES SBIR 2021 Phase 2
Period/Cost: 5/15/2022-5/14/2024 $1m

Investigation of Independent Walking Before and With Pediatric Belt Canes"
PI: Grace Ambrose-Zaken (Safe Toddles), co-PI: Marom Bikson
Agency/Mechanism: Lavell Fund for the Blind
Period/Cost: 10/1/2021-10/1/2023 $356k
Scope: Improve independent walking in learners aged five and younger with visual impairments.

"Quantifying neuromodulation on spinal circuits"
PI: Marom Bikson
Agency/Mechanism: Boston Scientific Corporation
Period/Cost: 03/18/2021-6/02/2023 $250k
Scope: Characterize the effects of neuromodulation on spinal circuits.

"Non-Invasive Vagal Nerve Stimulation in Patients with Opioid Use Disorders"
PI: James Douglas Bremner (Emory) & Omer Tolga Inan (Georgia Tech). Sub-PI: Marom Bikson
Agency/Mechanism: NIH-NIDA UG3DA048502 / UH3DA048502

Funding Period/Cost: 8/15/2020- 7/31/2025 CCNY component $551k
Scope: Develop advanced non-invasive auricular stimulation technology.
Effort: 0.50 summer month

"Bridges to the Baccalaureate Research Training Program at LaGuardia Community College"
PI: Hendrick Delcham (LaGCC), MPI: Marom Bikson (CCNY)
Agency/Mechanism: NIH-NIGMS T34GM137858
Funding Period/Cost: 8/1/2020- 7/31/2025 CCNY component $49k
Scope: The major goal of this project is to provide mentored research experiences to qualified minority, economically disadvantaged or disabled students.
Effort: 0.25 summer month

"kHz frequency Spinal Cord Stimulation: Novel Temperature-Based Mechanisms of Action"
PI: Marom Bikson (CCNY), co-I: Luis Cardoso (CCNY) and John Martin (CUNY SoM)
Agency/Mechanism: NIH-NINDS 1R01NS112996-01A
Funding Period/Cost: 5/1/2020- 4/30/2025 $1.7m
Scope: Develop a novel mechanism of SCS using advanced computational and animal models

Past:

"Open-source computational modeling of Spinal Cord Stimulation (SCS) to enhance dissemination of 1R01NS112996"
PI: Marom Bikson (CCNY)
Agency/Mechanism: NIH-NINDS 3R01NS112996-01A1S1
Funding Period/Cost: 7/1/2021- 4/30/2023 $314,000
Scope: Enhances within-scope resource dissemination of the awarded 1R01NS112996 parent award by developing an open-source SCS modeling tool that predicts current flow and heating

"The coupled vascular hypothesis for transcranial direct current stimulation (tDCS)"
PI: Marom Bikson, co-I: John Tarbell (CCNY) and Bingmei Fu (CCNY)
Agency/Mechanism: NIH-NINDS 1R01NS101362-01
Funding Period/Cost: 4/1/2017-3/31/2023 $1.7m
Scope: New mechanism of brain stimulation.
Effort: 1 Month (8%)

"Effects of direct-current stimulation on synaptic plasticity"
PI: Lucas Parra, co-PI Marom Bikson
Agency/Mechanism: NIH-NINDS 1R01NS095123-01
Funding Period/Cost: 5/2016-4/2022 $1.7m
Scope: tDCS on neuronal plasticity in brain slices.
Effort: 1 Summer Month (8%)

"Early Intervention Orientation and Mobility App with Pediatric Belt Cane-Smart Belt"
PI: Abhi Datta (Soterix Medical), Grace Ambrose-Zaken (Safe Toddles), co-PI Marom Bikson
Agency/Mechanism: U.S. Department of Education: Institute of Education Sciences Small Business Innovation Research Program ED/IES SBIR 2021 Phase I
Period/Cost: 5/1/2021-12/1/2021 $200k

Title: Redacted
PI: Marom Bikson
Agency/Mechanism: GlaxoSmithKline (GSK)
Funding Period/Direct Cost: 8/15/2019-12/31/2021 $319k
Scope: Redacted

“Translational Research Projects (TRP) in Spinal Cord Injury Research”
PI: John Martin. Co-I Marom Bikson
Agency/Mechanism: NYS DOH, DOH01-C31291GG
Funding Period/Total Cost 8/2016-8/2021 $3.7m
Scope: This grant supports developing translational models for electrotherapy of SCI.
Effort: 4%

“A Pilot Trial of Remotely Supervised Transcranial Direct Current Stimulation (RS -tDCS) to Enhance Motor Learning in Progressive Multiple Sclerosis (MS)”
PI: Leigh Charvet (NYU), co-PI (CCNY) Marom Bikson
Agency/Mechanism: DOD, Department of the ARMY-USAMRAA W81XWH-17-1-0320
Funding Period/Cost: 7/2017-6/2021 $955k
Scope: Advance technology for home neuromodulation in MS

“A tool-box to control and enhance tDCS spatial precision”
PI: Marom Bikson
Agency/Mechanism: NIH-NIMH 1R01MH111896
Funding Period/Cost: 9/2016-6/2021 $2.2m (includes supplement)
Scope: Automatic modeling software.

“Temporal dynamics of neurophysiological patterns as treatment targets in Schizophrenia”
PI: Daniel Javitt (Columbia), co-PI (CCNY) Marom Bikson
Agency/Mechanism: NIH-NIMH 1R01MH109289-01
Funding Period/Cost: 1/2016-1/2021 $4m
Scope: HD- tDCS and delta frequency tACS on neural oscillatory patterns underlying auditory cognitive impairments in schizophrenia

“Brain Signal Transplantation Project”
PI: Marom Bikson
Agency/Mechanism: General Patent Corporation
Funding Period/Direct Cost: 6/2018-12/2019 $44.5k
Scope: Develop new protocols for read-write neuromodulation.

“The Toddler App (TAC) and Cane System”
PI: Elga Joffee (Toddler Cane Inc.), co-PI (CCNY) Marom Bikson
Agency/Mechanism: US Department of Education, SBIR, ED-IES-17-C-0041 and Combined Foundations for City College
Funding Period/Cost: 5/2017-12/2019 $174k
Scope: Design a device to assist visually impaired children.

“Framework for Non-Invasive Low Voltage Electroporation for Drug and Gene Delivery to Brain Tumors”
Program PI: Karen Hubbard, Project PI (CCNY) Marom Bikson
Agency/Mechanism: NIH-NCI U54CA137788/ U54CA132378
Funding Period/Cost: 9/2016-8/2019 $485k
Scope: Enhancing drug delivery to brain tumors.

“Targeted Transcranial Electrotherapy to accelerate Stroke Rehabilitation- Exploratory Trial on Aphasia”
PI: Lucas Parra, (sub) CCNY PI Marom Bikson
Agency/Mechanism: NIH FAST-TRACK Phase 1+2 to Soterix Medical Inc. #R44NS092144
Funding Period /Total cost: 7/2015-3/2019 $3m
Scope: This grant supports a clinical trial on tDCS for rehabilitation.

"Repairing the Damaged Corticospinal Tract after Cervical Spinal Cord Injury"
PI: John Martin. Co-I Marom Bikson
Agency/Mechanism: NYS DOH, DOH01-C30606GG
Funding Period/Total Cost 11/2015-10/2018 $990k
Scope: This grant supports developing a new treatment for SCI.

"Cellular Mechanisms of High-Frequency SCS" (multiple phases)
PI: Marom Bikson
Agency/Mechanism: Boston Scientific ISR. ISRNON60014
Funding Period/Direct cost: 3/2016-9/2017 $384k
Scope: This grant supports research on high frequency Spinal Cord Stimulation.

"Wireless Pulse Oximetry (WiPOX) for Diagnosing Intra-Operative Ischemia"
PI: Marom Bikson. Co-I Prasad Adusumilli
Agency/Mechanism: NIH-NIBIB (R03) #5R03EB017410-02
Funding Period/Direct Cost: 4/2014-3/2017 $100k
Scope: This grant supports designing a new features on the WiPOX.

"Preclinical Evaluation, Clinical Trial Preparation and a Prospective Clinical Trial of Intra-operative Real-time Tissue Oxygenation Monitoring by Wireless Pulse Oximetry (WiPOX)"
Project PI: Marom Bikson, Prasad Adusumilli; Program PI Karen Hubbard
Agency/Mechanism: NIH-NCI (U54) #5U54CA132378-07
Funding Period/Direct Cost: 10/2013-9/2016 $750k
Scope: This grant supports the development of intra-operative medical sensors.

"High resolution anatomical and physics-based biomechanical models of auditory regions for predicting effects of neuromodulation and implantable devices used to restore hearing and balance"
PI: Marom Bikson, Co-PI Luis Cardoso
Agency/Mechanism: DoD, QUASAR (FA8650-12-D-6280, Task Order 0036)
Funding Period/Total Cost 6/1/15-9/30/2016 $106k
Scope: Novel simulations for hearing transduction

"Supplement Phase IIA Griep-Act-Reposition (GAR) platform"
PI: Marom Bikson (sub-award).
Agency/Mechanism: NSF, sub-award by Actuated Medical Inc. #5042-S01
Funding Period/Total Cost (sub-award)5/2015-2/2016 $147k
Scope: This grant supports design if an intraoperative ablation device.
Effort: 1 Academic Month (8.3%).

"Modulation of blood-brain-barrier (BBB) permeability by tDCS relevant electric fields"
PI: Marom Bikson. Co-PI John Tarbell, Co-PI Bingmei Fu
Agency/Mechanism: NIH-NIBIB (R21) 5R21EB017510-02
Funding Period/Direct Cost: 5/2014-4/2016 $230k

"Cellular Mechanisms of Transcranial Direct Current Stimulation"
PI: Marom Bikson
Agency/Mechanism: USAF, Air Force Research Lab (AFRL) #FA9550-13-1-0073
Funding Period/Cost: 3/2013-2/2016 $570k
Scope: This grant supports the testing the cellular mechanisms of DCS.

"A naturalistic study of transcranial Electrical Stimulation"
PI: Marom Bikson. Co-PI Berkan Guleyupoglu"
Agency/Mechanism: Thync Inc.

Funding Period/Direct Cost: 7/2014-10/2014 $266k

"Effects of weak applied currents on memory consolidation"
PI: Lucas Parra (US), Lisa Marshall (Germany). Co-PI Marom Bikson
Agency/Mechanism: NIH/NSF CRCNS (5R01MH092926-05)
Funding Period/ Cost: 9/2010-8/2015 $628k

"High-Density Transcranial Electrical Stimulation"
PI: Marom Bikson
Agency/Mechanism: Wallace Coulter, Early Career Award in Translational Research-Phase 1,2
Funding Period/ Direct Cost (with supplements) 9/2009-12/2014 $510k

"Computational and 3D-printed reconstruction of head following TBI"
PI: Marom Bikson.
Agency/Mechanism: Burke Research Institute
Funding Period/Direct Cost: 5/2015-6/2015 $44k

"Sub-mm high-resolution models for rational and advanced neuromodulation: cranial nerve targets and combination with cochlear implants"
PI: Marom Bikson
Agency/Mechanism: DoD Quick Reaction USAFSAM Assessments, Studies, Analysis, Evaluation, and Research (QUASAR)
Funding Period/Cost: 7/2013-6/2014 $248k

"High Definition Cathodal Transcranial Direct Current for Treatment of Focal Status Epilepticus"
PI: Alexander Rotenberg (Harvard Medical), Co-PI Marom Bikson, Co-PI Abhishek Datta (Soterix Medical Inc.)
Agency/Mechanism: Epilepsy Therapy Project/Epilepsy Found: New Therapy Grants Program
Funding Period/Cost: 9/2012-8/2014 $214k

"DoD Computational Center for Rational tDCS"
PI: Marom Bikson
Agency/Mechanism: Air Force Defense Research Sciences Program: DURIP
Funding Period/Cost (direct): 9/2013-8/2014 $250k

"Development and Validation of Thoracic Endoscopic Surgery Simulators to Conduct a Prospective Randomized Crossover Study of Simulators vs. Didactics for Teaching and Assessing Medical Students and Surgical Trainees Technical Skills"
PIs: Marom Bikson and Prasad Adusumilli, Program PI Karen Hubbard
Agency/Mechanism: NIH-NCI U54 (Pilot Project)
Funding Period/Direct Cost: 8/2011-7/2013 $220k

"Targeted transcranial electrotherapy device to accelerate stroke rehabilitation"
PI: Lucas Parra (Soterix Medical Inc.), PI (CCNY) Marom Bikson
Agency/Mechanism: NIH-NINDS STTR
Funding Period/Cost: 8/2011-1/2013 $530k

"A prospective clinical trial to assess the efficacy of real-time intraoperative monitoring of tissue oxygenation by wireless pulse oximetry (WiPOX) in reducing anastomotic complications following esophagogastrectomy"
PIs: Marom Bikson and Prasad Adusumilli, Program PI Karen Hubbard

Agency/Mechanism: NIH-NCI U54 (Pilot Project)
Funding Period/Direct Cost: 9/2010-8/2012 $200k

"System for Focal Cranial Electrical Stimulation"
PI: Lucas Parra; Co-PI Marom Bikson
Agency/Mechanism: DARPA/DSO
Funding Period/Cost: 6/2009-9/2011 $450k

"Role of field effects in spike time coherence"
Sub Proposal PI: Marom Bikson
Agency/Mechanism: NIH SO1 (RO1 level)
Funding Period/Direct Cost: 2/2007-1/2011 $400k

"A national urban model for biomedical engineering undergraduate education"
PI: Sheldon Weinbaum, Co-PI Marom Bikson
Agency/Mechanism: NIH
Funding Period/Direct Cost: 9/2006-8/2011 $2.5mil

"System for Focal Cranial Electrical Stimulation – Safety and Efficacy Evaluation"
PI: Lucas Parra; Co-PI Marom Bikson
Agency/Mechanism: DARPA/DSO
Funding Period/Cost: 12/2009-6/2011 $337k

"Indirect mechanisms of DBS: Joule heating and electroporation"
PI: Marom Bikson
Agency/Mechanisms: NIH R03
Funding Period/Direct Cost: 3/2007-2/2009 $100k

"Technology for improved drug delivery to the brain."
PI: Marom Bikson
Agency: Andy Grove Foundation
Funding Period/Direct Cost: 9/2004-9/2007 $90k

"CCNY/MSKCC Biomedical Engineering Partnership"
PI: John Tarbell, Sub-Proposal PI: Marom Bikson
Sub-proposal title: "Improved electrochemotherapy protocols for the treatment of solid tumors"
Agency/Mechanism: NIH-NCI P20
Funding Period/Direct Cost (Sub-Proposal): 12/2005-8/2007 $118k

"Quantification of neuronal polarization by non-uniform electric fields"
PI: Marom Bikson
Agency/Mechanism: CUNY Research Equipment Grant
Funding Period/Direct Cost: 3/2005-2/2006 $30k

Awards/Honors (*Small Grants/Contracts <$35k):

CHARGE Syndrome Grant ($19k) 2022
Jake Zabara Grant 2019
Harold Shames Professor 2018
Ohio State University Contract (*$10k)

PSC-CUNY Award 2004, 2005, 2012, 2017, 2019 (*$12k)
ElectroCore Inc. Research Award 2015/2016 ($10k)
NuCalm Inc. Research Award 2015 ($10k)
Fenexy Foundation SAB 2015
PROSE Award, Honorable Mention “The Stimulated Brain” 2015
American Institute for Medical and Biological Engineering (AIMBE) College of Fellows 2015
Biomedical Scholarship Fund for New Americans 2014 ($8k)
MSKCC Research SubAward “WiPOX Development “ 2013 (*$35k)
2012 CCNY Mentoring Award in Architecture, Biomedical Education, Engineering and Science
OneMed Forum, University Technology Selection 2012
University Research and Entrepreneurship Symposium technology selection 2012
“UnConference” Cleveland, Invitee 2011
Memorial Sloan Kettering Cancer Center-CCNY Development Fellowship 2011 (*$25k)
New York City BioAccelerate Award, Finalist 2010
CUNY selection, NYC Emerging Medical Technologies Summit 2010
New York City Bioaccelerate Award, Finalist 2009
Wallace H. Coulter Early Career Award 2009 (see major grants)
Louis Stokes Alliance, Outstanding Mentor Award 2009
Catell Fellowship 2008-2017*
Conference on Transcranial Magnetic and Direct Current Stimulation Opening Lecture 2008
COMSOL conference Popular Choice Poster 2008
Harold Shames Presidential Junior Faculty Professor 2003-2007 (*)
Introduction to BME Student Teaching Award 2005
Introduction to BME Student Teaching Award 2004
Brain (Journal) Travel Grant 2002 (*)
University of Birmingham, Rowbotham Bequest 2001 (*)
The Physiological Society, Affiliate Grant 2001 (*)
NIH Trainee 1999-2000
Whitaker Trainee 1996-1998
Functional Electrical Stimulation Robinson Award 1999
CWRU BME Research Day Student Presentation 1st place 1999
Johns Hopkins University Physiological Foundation Lab Design Award 1995

Professional Activities (academic only, for Industry see consulting)

Member: American Institute for Medical and Biological Engineering, CUNY Academy for the Humanities and Sciences, Society for Neuroscience, Biomedical Engineering Society, Reuters Insight Expert Network, HG Legal Expert Witness

Editor (board): Brain Stimulation (2012, Technology and Modeling Editor 2013-), NeuroImage: Clinical (2012), Scientifica (2012-), Journal of Neural Engineering (2019-), Guest Editor (Special Issues): Frontiers in Neuroscience (2013) "Open questions on the mechanisms of neuromodulation with applied and endogenous electric fields", Guest Editor (Special Issues): Frontiers in Neuroscience (2016) Revisiting the Effectiveness of Transcranial Direct Current Brain Stimulation for Cognition: Evidence, Challenges, and Open Question, Current Opinion in Biomedical Engineering (2016-)

North American Neuromodulation Society, Board of Directors (2022-2024)

Ad hoc reviewer: Journal of Obstetrics and Gynaecology Research, Cortex, Neurorehabilitation and Neural Repair, Brain Research, European Journal of Neuroscience, Journal of Clinical Neurophysiology, Journal of Neurophysiology, Epilepsia, IEEE Transactions in Biomedical Engineering, IEEE Transactions of Neural Systems and Rehabilitation Engineering, Journal of Neural Engineering, Medical & Biological Engineering & Computing, Journal of Computational

Neuroscience, Annals of Biomedical Engineering, International Journal of Neural Systems, PLOS, Journal of Neuroengineering and Rehabilitation, Brain Stimulation, Science Center programs of the U.S. Department of State, NIH, The Royal Society (UK), Prader-Willi Syndrome Association (USA), Pain, Experimental Neurology. United States-Israel Binational Science Foundation, Action Medical Research, US Air Force Office of Scientific Research, Frontiers, South Carolina's Institutions of Higher Education, Human Brain Mapping, International Journal of Developmental Neuroscience. NIH-NINDS ZNS1 BRAIN Special Emphasis Panel (2014), The Swiss National Science Foundation, Review of Scientific Instruments, Brain Connectivity, European Union, Netherlands Organisation for Scientific Research, NIH Stimulating Peripheral Activity to Relieve Conditions (SPARC) Special Panel (2017), Biological Psychiatry, Nature Communications, Cognitive, Affective, & Behavioral Neuroscience, The European Science Foundation, Neuropsychologia, Bioelectronic Medicine, Elife (Guest Editor), Special Emphasis Panel/Scientific Review Group 2020/05 ZRG1 ETTN-D (2020), Journal of Clinical Medicine, Engineering in Medicine and Biology Conference (2020), Neuroscience Research, Journal of Electromyography and Kinesiology, Brain Sciences, Alzheimer's Research & Therapy, NIH Bioengineering of Neuroscience, Vision and Low Vision Technologies Study Section Emerging Technologies and Training Neurosciences Integrated Review Group Review Group (2020), NIH ZMH1 ERB-Q-04 (2021), 43rd Annual International Conference of the IEEE Engineering in Medicine & Biology Society (2021), NIH 2021/10 ZNS1 SRB-A (47), NIH 2021/10 ZNS1 SRB-M (05), Nanomaterials, Austrian Science Fund (FWF), MRC (2021), NINDS ZNS1 SRB G (46) (2021), Innovation and Technology Commission, Hong Kong (2022), NIH (2022 NSD-C panel review. NIH ZNS1 SRB-M 09 (2022), NIH NSD-C (2024)

Encyclopedia BRAIN (Wiley-IEEE Press) Area Editor - Neuromodulation (2021).

Founding member: Introducing the International Consortium on Neuromodulation for COVID-19 (ICNC) (2020-)

Co-director, Neural Engineering, New York Center for Biomedical Engineering (2005-)

The City College of New York/City University of New York Medical School Institutional Animal Care and Use Committee (2004-2010)

Co-director, Howard Hughes Medical Institute Program for Undergraduates at CCNY (2005-2009)

Search Committee CCNY Associate Provost for Research (2020)

Committee Member, Memorial Sloan Kettering Cancer Center/City College of New York Partnership (2008-2010)

Executive Coordinating Committee, NIH Minority Undergraduate Biomedical Education Program at The City College of New York (2004-2011)

2014 Provost's Faculty Awards Committee (2014)

CCNY Research Ethics Committee (2014-2017)

IFCN TMS Safety Meeting, Siena, Italy (2018)

Founding Board for an Entrepreneurship Effort leveraging the GSOE (2011)

Founding Member, CCNY Pathways Project Innovation and Entrepreneurship into the engineering curriculum (2014)

Advisory Committee, CUNY Hub for Innovation and Entrepreneurship (2012-2016)

External Advisory Committee for the University of New Mexico - Center for Brain Recovery and Repair (2017-)

External Advisory Committee board University of Pennsylvania - brainSTIM center (2020-)

Director, Kaylie Entrepreneurship Prize (2012-2016) of the CCNY Zahn Center

Scientific Advisory Board
- Boston Scientific (2017-)
- GlaxoSmithKline (2018-2020)
- Halo Neuroscience (2019-2021)

Conference organization:

Potomac Institute for Policy Studies, Conference on Stun Devices (2005):
Moderator: *Health Effects Research Group*

IEEE Engineering in Medicine and Biology Society Conference (2006)
Track Chair: *Neural interfacing and neurorobotics*

IEEE Engineering in Medicine and Biology Society Conference (2006)
Session Chair: *Neural Stimulation and Prostheses 2*

IEEE Engineering in Medicine and Biology Society Conference (2006)
Session Chair: *Neural Stimulation and Prostheses VII*

Design of Medical Device Conference (2010)
Scientific Program Committee

Design of Medical Device Conference (2011)
Scientific Program Committee

Design of Medical Device Conference (2012)
Scientific Program Committee, Track Chair

International Symposium on Biomedical Engineering and Medical Physics, Latvia (2012)
Program Committee

Design of Medical Device Conference (2013)
Scientific Program Committee, Track Chair

Soterix Medical East Workshop at Burke Rehabilitation Hospital (2013)
Conference co-Director

NYC Neuromodulation (2013)
Conference co-Founder and Chair

NYC-tDCS Workshop - Neuromodec (2014)
Organizing Committee

Neuromodec tDCS Workshop – University of Florida (2014)
Organizing Committee

1st International Brain Stimulation Conference (2015)
Scientific Committee

NYC Neuromodulation (2015)
Conference co-Founder and Chair

Air Force, Dosimetry and Mechanisms Mediating Responses to tDCS (2015)
Moderator

NYC-tDCS Workshop - Neuromodec (2014)
Organizing Committee

Minnesota Neuromodulation Symposium (2015)
International Program Committee

Brain and Spinal Cord Stimulation in Chronic Pain Syndromes (2014)
Program Committee

NYC Visiting Fellowship in Transcranial Magnetic Stimulation (2015)
Organizing Committee
NYC Fellowship in Transcranial Direct Current Stimulation (2015)
Director
Updates on tDCS in Clinical Trials (2015)
Organizer
6th International Conference on Transcranial Brain Stimulation (2016)
Session Chair
NIH Symposium on Transcranial electrical stimulation (tDCS, tACS): Mechanisms, technologies and therapeutic applications (2016)
Co-Organizer
Minnesota Neuromodulation Symposium (2016)
Member International Program Committee
NYC Fellowship in Transcranial Direct Current Stimulation (2016)
Director
Neuromodulation Technology Meeting (2016)
Chair
NYC Neuromodulation (2017)
Chair
Minnesota Neuromodulation Symposium (2017)
Member International Program Committee
International Neuropsychological Society, New Orleans (2017)
Session Chair: Electrical brain stimulation and cognitive disorders
NIH Transcranial Electrical Stimulation (tES): Mechanisms, Technology and Therapeutic Applications (2017)
Co-Organizer
International Neuromodulation Society 3rd World Congress, Scotland (2017)
Session organizer and moderator
Neuromodec tDCS workshop, Barcelona (2017)
Co-Organizer
NYC Fellowship in Transcranial Direct Current Stimulation (2017)
Director
tDCS course at the New Mexico Clinical Neuromodulation Conference (2017)
Course co-Director
North American Neuromodulation Society. Pre-Conference Continuum of Care from Wearables to Non-Invasive Neuromodulation (2018)
Co-Organizer
North American Neuromodulation Society, Scientific Program Committee (2018)
Member
NYC Neuromodulation and NANS Summer Series (2018)
Co-Chair
2nd International Neuroergonomics Conference, tDCS Course (2018)
Co-Organizer
North American Neuromodulation Society. Pre-Conference Continuum of Care from Wearables to Non-Invasive Neuromodulation (2019)
Co-Director
North American Neuromodulation Society, Scientific Program Committee (2019)
Member
2nd International Brain Stimulation Conference, Vancouver, Canada (2019)
Programme Committee
Joint Meeting: Neuromodulation the Science, NYC Neuromodulation (2019)
Co-Director
3rd International Neuroergonomics Conference, Germany (2020)
Scientific Program Committee

3rd International Neuroergonomics Conference, Germany (2020)
tDCS Workshop
2020 International Symposium on Translational Research in Brain Stimulation with NYC-Neuromodulation (2020)
Co-Chair
7th International Conference on Non-Invasive Brain Stimulation (2020)
Program Committee
7th International Conference on Non-Invasive Brain Stimulation (2020)
Computational Modeling Workshop
North American Neuromodulation Society (2020)
Scientific Program Committee
North American Neuromodulation Society. Pre-Conference Engineering Principles of Spinal Cord Stimulation and Deep Brain Stimulation for Clinicians (2020)
Co-Organizer
NYC Neuromodulation Online (2020)
Conference Chair
3rd International Neuroergonomics Conference (2021)
Scientific Committee
3rd International Neuroergonomics Conference (2021)
Workshop director: Introduction to practical methods in low-intensity transcranial Electrical Stimulation
North American Neuromodulation Society, Scientific Program Committee (2021)
Member
5th International Network of tES-fMRI (INTF) (2021)
Co-Organizer
International Conference on Neurosciences and Rehabilitation (2021) - workshop director
Transcranial Direct Current Stimulation (tDCS): Advanced Theory and Practical Demonstration
North American Neuromodulation Society, Scientific Program Committee (2022)
Member
Engineering principles of SCS and DBS: Foundations, industry updates, and emerging concepts (2022)
Co-Chair
Neuromodulation the Science (2021)
Co-Director

Joint Meeting of International Neuroergonomics Conference with NYC Neuromodulation (2022)
Co-Chair
NAPA Pain, Neuromodulation The Science (NTS) track coordinator (2023)
NTS Co-Coodinator
North American Neuromodulation Society (2024)
Scientific Program Committee
International Neuromodulation Society (2024)
Scientific Program Committee
Co-Chair of the Noninvasive Brain Stimulation pre-conference
Co-Chair of the Brain: Non-Invasive Stimulation section
NYC Neuromodulation (2024)
Co-Chair
North American Neuromodulation Society (2025)
Scientific Program Committee Co-Chair
International Brain Stimulation conference, Kobe Japan (2025)
Program Committee

INVITED PRESENTATIONS:

University of Birmingham, Department of Pharmacology (2001):
"*Suppression of spontaneous epileptiform activity in rat brain slices with DC and high frequency (AC) electric fields*."
Boston University, Center for BioDynamics (2003):
"Modulation of neuronal excitability by low- and high- amplitude electric fields."
City University of New York, NY Center for Biomedical Engineering (2003):
"Effects of electric fields on neuronal function: environmental safety and clinical applications."
Albert Einstein College of Medicine, Department of Neuroscience (2003):
"Role of non-synaptic interactions in epileptic seizures"
City University of New York, Biology Department (2004):
"Non-synaptic and synaptic mechanisms in epilepsy"
George Mason University, Krasnow Institute (2004):
"*Modulation of neuronal function by applied DC electric fields"*
City College of New York, Frankenstein Exhibit Opening (2004)
Keynote speaker
Potomac Institute for Policy Studies, Conference on Stun Devices (2005):
"Electrical Stimulation: An Overview"
Albert Einstein College of Medicine, Epilepsy Research Group (2005)
"Measurements of the neuronal environments"
Life Science Career Development Conference (4th annual) session on Hot Trends in Biomedical Engineering (2005)
"Neural Engineering and Functional Electrical Stimulation"
IEEE Engineering in Medicine and Biology Society Conference (2006) Therapeutic Neural Engineering minisymposium
"Rational modulation of neuronal processing with applied electric fields"
Memorial Sloan Kettering Cancer Center/CCNY Symposium (2006)
"*Design of rational electrochemotherapy protocols"*
University of Maryland, Department of Psychology (2006)
"A functional role for extracellular potentials in the brain?"
Penn State University, Engineering Science and Mechanics (2007)
"Amplification of small electric fields through spike timing; implications for brain oscillations."
Columbia University, BME Neural Seminar (2008)
"Rational Design of Electrotherapy Devices"
Memorial Sloan Kettering Cancer Center/CCNY Translational Research Symposium (2008)
"Technology for electrochemotherapy and electro-therapeutic drug delivery through blood barriers"
Neural Interfaces Conferences, Cleveland, OH (2008)
"Rational design of sub-threshold stimulation protocols"
Third International Conference on Transcranial Magnetic Stimulation and Direct Current Stimulation (2008)
"*Insights from in vitro studies, designing targeted stimulation protocols*"
Third International Conference on Transcranial Magnetic Stimulation and Direct Current Stimulation (2008) Goettingen, Germany OPENING LECTURE
"*From TMS to tDCS to Modulated therapies: Biophysics of electrical therapy design*"
Neuropsychology, Queens College and the Graduate Center CUNY (2008)
""New technology for non-invasive electrical treatment of brain disorders: High-Density transcranial Direct-Current Stimulation"
The Mind Research Network (MRN), University of New Mexico (2008)

"Targeted brain modulation with functional high-density transcranial electrical stimulation"

National Institute of Neurological Disorders and Stroke -NIH (2009)

"Mechanisms and Optimization of tDCS"

Design of Medical Device Conference (2009)

"High-Density Transcranial Electrical Stimulation (HD-tES)"

Fourth International Workshop on Seizure Prediction (2009)

"Modulating seizure-permissive states with weak electric fields"

Center for Noninvasive Brain Stimulation, Harvard Medical School, Beth Israel Deaconess Medical Center (2009)

"Towards Individualized tDCS Therapy: Biophysical Insights and High-Density Technology"

Weill Cornell Continuing Medical Education, Cornell Medical College (2009)

"New – and not so new- technology to control seizures with electrical stimulation devices."

Psychiatry Grand Rounds Series at the Medical University of South Carolina (2009)

"High-Density Transcranial Electrical Stimulation: Non-invasive and painless targeting of cortical structures for neurological electrotherapy."

National Institute of Aging – NIH (2009)

"A new medical device for non-invasive neuro-modulation and therapy with very low-intensity electrical currents"

The New York City Investment Fund: BioAccelerate Prize (2010)

"Breakthrough in Electrotherapy Technology: High-Density Transcranial Electrical Stimulation (HD-tES)"

II International Symposium in Neuromodulation (2010)

"In vitro studies: designing targeted stimulation protocols."

II International Symposium in Neuromodulation (2010)

"Computer modeling: what have we learned to design new interventions?"

NYC Emerging Medical Technologies Summit (2010)

"H-sink technology for medical implant safety."

Clinical, Assessments and Interventions Updates in Neurorehabilitation, Harvard Medical School, Boston (2010)

"Modeling the effects of Neuromodulatory tools."

Interdisciplinary Neuroimaging Research Meeting, University of South Carolina (2010)

"Next generation non-invasive electrical neuromodulation."

Stroke Rehabilitation Research, Kessler Foundation Research (2011)

"Customized and individualized tDCS dose through computational models"

Department of Biomedical Engineering, University of Ilmenau, Germany (2011)

"High-resolution FEM models for advanced transcranial electrical therapy."

8th Practical Course in Transcranial magnetic and electrical stimulation, German Neuroscience Society (2011)

"Optimizing tDCS using computer modeling."

University Medical Innovation Showcase, Javits Convention Center, NYC, NY (2011)

"*High-Definition Transcranial Electrical Stimulation (HD-tES): Non-invasive, low-intensity, electrical Neurostimulation*"

New York City Emerging Technologies Summit "Opportunities in Neuroscience" (2011)

"*Non-invasive electrotherapy*"

III International Symposium in Neuromodulation (2011)

"Computer modeling in neuromodulation: how they can help the clinician."

III International Symposium in Neuromodulation (2011)

"High-Definition Transcranial DC Stimulation."

Manhattan Adult Attention Deficit Disorder Support Group (2011)

"*From technology to treatment: What can we do to expedite progress?*"

tDCS Symposium, Neuro-Cognitive Rehabilitation Network (NCRRN) University of Pennsylvania (2011)

"Physiology of tDCS"

Harvard Medical School – tDCS course (2011)

"*Determining tDCS dose – Electrode montage design for brain targeting*."

Neuropsychology and Neuroscience Laboratory, Kessler Foundation (2011)

"tDCS mechanisms and dose design for clinical trials"

Clinical, Assessments and Interventions Updates in Neurorehabilitation (HMS-CME), Harvard Medical School, Boston (2011)

"Modeling the effects of Neuromodulatory tools."

Lawrence N. Field Center for Entrepreneurship Baruch College (2011)

Faculty Entrepreneurship Roundtable

Photo-Electro-Magnetic Biostimulation of Performance and Protection, Fort Sam Houston (2011)

"Deployable and targeted neuromodulation with High-Definition transcranial Direct Current Stimulation."

SUNY Downstate Medical Center (2011)

"Deployable and targeted neuromodulation with High-Definition transcranial Direct Current Stimulation."

Neuroscience Center, College of Staten Island, CUNY (2012)

"Modulating brain function with transcranial Direct Current Stimulation: Clinical promise and next generation technology."

Cooper Union, Seminars of Biomedical Engineering (2012)

"Rapid medical device prototyping: From idea to patient"

Harvard Medical School – tDCS practical (2012)

"*Getting the most out of tDCS – Optimizing dose for targeting*."

IV Symposium International on Neuromodulation - Sao Paulo, Brazil (2012)

"Cellular mechanisms of tDCS: From classic doctrine to new directions."

IV Symposium International on Neuromodulation - Sao Paulo, Brazil (2012)

"*tDCS dose guidelines across the extremes of age and size, and following stroke."*

American Society for Neurorehabilitation, Vancouver (2012)

Panel: Evidence-based approaches in neuro-rehabilitation

4th Annual CCNY-MSKCC Partnership Translational Research Symposium (2012)

"Real-Time Intraoperative Tissue Oximetry"

Clinical, Assessments and Interventions Updates in Neurorehabilitation (HMS-CME), Harvard Medical School, Boston (2012)

"Modeling the effects of Neuromodulatory tools."

Alameda County Medical Center (2012)

"Fundamentals and mechanisms of tDCS"

10th Göttingen Meeting of the German Neuroscience Society (2013) – Germany

"Targeting of transcranial Direct Current Stimulation"

Fifth International Conference on Transcranial Magnetic Stimulation and Direct Current Stimulation (2013) Leipzig, Germany LECTURE AND WORKSHOP CHAIR

"*Optimized design of tDCS with computational models*"

The Leslie and Susan Gonda Multidisciplinary Brain Research Center at Bar-Ilan University, Israel (2013)

"Transcranial direct current stimulation: Devices, therapies and clinical trials"

Department of Biomedical Engineering, Ben-Gurion University of the Negev, Israel (2013)

"High-Definition transcranial Direct Current Stimulation: Non-invasive and targeted neuromodulation."

Nathan Kline Institute for Psychiatric Research, New York (2013)

"High-Definition Stimulations Targeting Approaches for tDCS"

University of New Mexico, Psychology Department (2013)

"Frontiers of neuromodulation technologies for cognitive neuroscience and neuropsychiatric treatment"

UC Davis Center for Mind and Brain (2013)
"High-Definition tDCS"

University of Wisconsin, Department of Neurology (2013)
"Mechanisms and technology of transcranial Direct Current Stimulation"

Magstim Neuroenhancement Conference, Oxford UK (2013)
"Individualized and targeted neuromodulation with High-Definition DCS"

University of Oxford, Nuffield Dept of Clinical Neurosciences (2013)
"Making Sense of Transcranial Direct Current Stimulation: From High-Definition to Individualized Targeting"

American College of Neuropsychopharmacology Annual Meeting (2013)
"At the Crossroads of Physics, Physiology, and Psychiatry: Rational Design of Noninvasive Neuromodulation Therapies."

Society for Neuroscience Meeting (2013)
"Therapeutic Neuromodulation with Transcranial Current Stimulation: Ready for Rational Design?"

Cleveland FES Center (2013)
"Fundamentals of transcranial Direct Current Stimulation"

Washington University (2013)
"Too good to be true? tDCS applications in cognitive performance, neurology, and psychiatry."

V Symposium International on Neuromodulation - Sao Paulo, Brazil (2013)
"Making tDCS effective and specific: insights from computational and animals models."

V Symposium International on Neuromodulation - Sao Paulo, Brazil (2013)
"*tDCS in children: dose consideration."*

National Institute of Health – Medical Center (2013)
"Modeling of transcutaneous spinal Direct Current Stimulation (tsDCS)

AFOSR Human Performance and Biosystems Program Meeting (2013)
"Toward a quantitative understanding of tDCS"

NYC Neuromodulation (2013) CONFERENCE CHAIR AND KEYNOTE
"The next generation of transcranial electrical stimulation technologies."

International Congress of Clinical Neurophysiology, Berlin, Germany (2014)
"NIBS: cellular and molecular mechanisms"

11th Practical Course "Transcranial magnetic and electrical stimulation", Germany (2014)
"Network oscillations as a substrate for tACS modulation of learning and plasticity: cellular and quantitative insights from brain slice."

Columbia Neurological Institute (2014)
"A new paradigm for non-invasive seizure control: the "DSES" trial and adaptive High-Definition tDCS"

Adaptive Response in Biology and Medicine, University of Amherst (2014)
"Neuromodulation with weak transcranial electrical stimulation: Small things making a big difference"

Harvard Medical School Neurorehabilitation Course (2014)
"The future of home-based neuromodulation treatments."

NYC tDCS Workshop (2014)
"Overview of tDCS dose."

2nd Annual Minnesota Neuromodulation Symposium (2014)
"Frontiers of non-invasive neuromodulation"

George Mason University (2014)
"Basic principles and practices of transcranial Direct Current Stimulation"

9th annual Neurotech Investing and Partnering Conference (2014)
"High-Definition transcranial Direct Current Stimulation"

IV Symposium International on Neuromodulation - Sao Paulo, Brazil (2014)
"Technical requirement for home-use transcranial Direct Current Stimulation."
IV Symposium International on Neuromodulation - Sao Paulo, Brazil (2014)
"*State-of-the art tDCS protocols, techniques, and optimization."*
Society of Biological Psychiatry Annual Meeting, New York (2014)
"*Biophysical Foundations of tDCS: Evidence from Computer Models and Animal Studies"*
The Zucker Hillside Hospital, New York (2014)
"transcranial Direct Current Stimulation (tDCS): technology, mechanisms, and applications in mental health"
Mount Sinai, Department of Psychiatry (2014)
"Introduction to neuromodulation with tDCS"
Harvard Medical School: Clinical Assessments and Intervention Updates in Neurorehabilitation (2014)
"Principles and Modeling of Transcranial Direct Current Stimulation"
University of Florida tDCS Workshop (2014)
Technology and modeling section.
Weill Cornell Medical College (2014)
"transcranial Direct Current Stimulation (tDCS)"
American Epilepsy Society Annual Meeting (2014)
"Transcranial DC stimulation for Seizures"
Medical University of South Carolina (2014)
"tDCS"
1st International Brain Stimulation Conference, Singapore (2015)
"Who, where, what, when, and why: Optimizing transcranial Direct Current Stimulation"
1st International Brain Stimulation Conference, Singapore (2015)
"Cellular mechanisms of tDCS: Insights from animal models"
1st International Brain Stimulation Conference, Singapore (2015)
"Understanding cellular targets of (HD) tDCS to optimize brain targeting"
3rd North America TMS Montreal, Canada (2015)
Comparing the focality of TMS and HD-tDCS
Winter Conference on Brain Research (2015)
"Shocking old/new world: moving towards the more selective stimulation of the human brain"
Air Force, Dosimetry and Mechanisms Mediating Responses to tDCS (2015)
"tDCS-Introduction and General Principles"
Albert Einstein College of Medicine (2015)
"transcranial Direct Current Stimulation: How can one thing work for everything?"
Brain and Spinal Cord Stimulation in Chronic Pain Syndromes, NYC (2015)
"Overview of neuromodulation approaches for pain"
Sophie Davis School of Biomedical Education CCNY (2015)
"Physics and neurophysiology makes tDCS better"
State University of New York at Binghamton (2015)
"Physical and neuroscience foundations of low-intensity brain stimulation"
Magstim Neuroenhancement Conference, Oxford UK (2015)
"Individualized and targeted neuromodulation with High-Definition DCS"
A dialogue with the cerebral cortex meeting. Barcelona Pain (2015)
"Modulating brain processing and learning with targeted non-invasive electrical stimulation"
V Symposium International on Neuromodulation - Sao Paulo, Brazil (2015)
"How does transcranial Direct Current Stimulation change cortical processing: Insights from animal models."
V Symposium International on Neuromodulation - Sao Paulo, Brazil (2015)

"*Update on the use of High-Definition tDCS in clinical neurophysiology and trials."*
University College London (2015)
"How to cure any disease and get smart: An overview of tDCS mechanisms"
World Science Festival (2015)
Panel: Electric Medicine and The Brain
NYC Visiting Fellowship in Transcranial Magnetic Stimulation (2015)
Fundamentals of electrical stimulation of the brain
Center for Addiction and Mental Health, Toronto (2015)
Design and optimization of tDCS for clinical trials: perspective from animal and computational studies"
2015 North American Neuromodulation Society (NANS)
"High-definition transcranial direct current stimulation"
UCLA Neurology (2015)
"How does tDCS work for so many different things?"
NJIT (2015)
"The engineering foundations of non-invasive brain stimulation with weak currents"
Dupont Summit (2015) on Science, Technology, and Environmental Policy
"Ethics and technology of personal neuromodulation"
Columbia University, Teachers College (2016)
"Transcranial Direct Current Stimulation in behavioral, cognitive, social and clinical neuroscience."
Plenary: 6th International Conference on Transcranial Brain Stimulation (2016)
How TDCS polarizes a highly folded cortex
IEEE ICES TC95, Plantation Fl (2016)
"Engineering standards for tDCS"
Keynote: Michael C. Wilson Memorial Lecture, UNM (2016)
"Ethics and technology of personal neuromodulation"
2016 Society for Psychophysiological Research
Panel: Methods in tDCS
Keynote: 2016 42nd Northeast Bioengineering Conference (NEBEC)
"Engineering the Brain with Non-invasive Electrical Stimulation: Applications in cognition and treatment"
tedX Bushwick 2016
"A Tool for the Mind"
3rd Annual Symposium of Brain Imaging Center (BIC) at the Icahn School of Medicine at Mount Sinai, 2016
"Far field effects in Transcranial Direct Current Stimulation and Deep Brain Stimulation."
Cohen Lab, NIH (2016)
"How tDCS works, and works for so many things."
Late Summer School on Non-Invasive Brain Stimulation, Freiburg, Germany (2016)
"Translation aspects of tDCS: From rodents to humans"
Late Summer School on Non-Invasive Brain Stimulation, Freiburg, Germany (2016)
"Modeling and tDCS current distribution"
National Academies of Sciences, Engineering, and Medicine's Forum on Neuroscience and Nervous System Disorders. (2016)
"Quantification of Dose with Devices"
2016 PACHE Investigators Workshop at the National Institute of Health NCI (2016)
"WiPOX for intra-operative monitoring of tissue oxygenation.", Bethesda
NIH Symposium on Transcranial electrical stimulation (tDCS, tACS): Mechanisms, technologies and therapeutic applications (2016), Bethesda
"Computational modeling-assisted design of tDCS protocols"
Tinnitus Neurocognitive Approaches from Diagnostic to Rehabilitation workshop (2016), Brazil.

"tDCS for tinnitus"
Hunter College, CUNY (2016)
"The hype and reality around transcranial Direct Current Stimulation"
Brain and Mind Centre at Sydney University, Australia (2016)
"Zap my Brain"
American College of Neuropsychopharmacology Annual Meeting, Hollywood Florida (2016)
"Direct Current Stimulation Accelerates Synaptic Models of Learning in Animals."
NIH Brain Initiative Investigators Meeting, Bethesda (2016)
"A toolbox to models tDCS"
International Neuropsychological Society, New Orleans (2017)
"The basics of tDCS: technology and mechanisms"
International Neuropsychological Society, New Orleans (2017)
tDCS practical course
Stevens Institute of Technology (2017)
Engineering neuromodulation devices.
International Neuromodulation Society 3rd World Congress, Scotland (2017)
"Introduction to Mechanistic Questions around High-Rate Stimulation and Overview of Methods for Reliable Electrophysiological Recording During High-Rate (10k) Stimulation" (session organizer and chair)
Pre-Conference on NIMBS to International Neuromodulation Society 3rd World Congress, Scotland (2017)
"Toward Markers of Target Engagement in tDCS"
American Pain Society (2017)
"Electroceuticals at home."
Cumming School of Medicine, University of Calgary, Canada (2017)
"Promise and pitfalls of tDCS"
2nd International Brain Stimulation Conference (plenary), Barcelona, Spain (2017)
"tDCS and the folded, active, plastic brain."
Neuromodec Barcelona tDCS Workshop, Barcelona, Spain (2017)
"Overview of tDCS"
New York University, New York (2017)
"Updates on the mechanisms of low-intensity electrical neuromodulation"
NIH NIDA Neuromodulation Workshop (2017)
"Medical device safety."
The Science of Consciousness, Davis (2017)
"Non-invasive brain stimulation devices to change thought and behavior"
Northeastern University (2017)
"Translational Neural Engineering: Accelerated medical device design for treatment of neuro- psychiatric disorders and brain injury."
Mt Sinai, Department of Neuroscience, New York (2017)
"Better science makes better neuromodulation: Accelerating the discovery of non-invasive brain stimulation techniques."
Mt Sinai, Department of Neurosurgery, New York (2017)
"Major mechanistic questions and technology opportunities in Spinal Cord and Deep Brain Stimulation."
ANT EEG-tDCS & TMS methodology in research and clinical research settings (2017)
"Technical aspects of tDCS/EEG
New Mexico Clinical Neuromodulation Conference (2017)
"tDCS and complex folded brain."
NIH NIMH on-Invasive Brain Stimulation E-Field Modelling Workshop (2017)
"ROAST and HD-Explore: Overview and Hands On Softwares to model transcranial Electrical Stimulation"

North American Neuromodulation Society (2018). Pre-Conference Continuum of Care from Wearables to Non-Invasive Neuromodulation
"Opening Remarks"
North American Neuromodulation Society (2018). Pre-Conference Continuum of Care from Wearables to Non-Invasive Neuromodulation
"Principles and Technology of tDCS"
North American Neuromodulation Society (2018)
"No effects of high-rate (multi-kHz) electric fields on brain slice on excitability"
North American Neuromodulation Society (2018)
"Temperature Increases by High-Rate Spinal Cord Stimulation"
Hermetic Dose Response Meeting, Amherst (2018)
"tDCS and Dose Response"
Columbia University, Teacher College (2018)
"How the busy brain responds to tDCS"
Society of Biological Physicality, New York (2018)
"The potential and limitations of transcranial Direct Current Stimulation"
Carolina Neurostimulation Conference (2018)
"tES is (not) in crisis"
Air Force Research Lab: tDCS Workshop (2018)
"State of the art in Biosensor/electrotherapy technology"
NYU Symposium on tDCS (2018)
"The good, the bad, and the ugly tDCS"
2nd International Neuroergonomics Conference (2018)
"Neuromodulation Technology for Neuroergonomics"
The Art and Science of Pain Management (2018)
"New advances in non-invasive technology for pain."
IFCN TMS Safety Meeting, Siena, Italy (2018)
"New Machines and coils"
3rd European Conference on Brain Stimulation in Psychiatry (2018)
"The frontier of tDCS in psychiatry and the role of new technologies"
University of Southern California (2018)
"The promise and pitfalls of tDCS"
Wearable Tech + Digital Health + Neurotech Boston (2018)
"Downloading Personalized Brain Stimulation"
Annual Symposium of Artificial Intelligence, Advanced Digital Technologies, and Device Development (2018)
"Downloading Personalized Brain Stimulation"
Kessler Foundation (2018)
"Understanding the benefits and uses of tDCS."
Mt Sinai BioDesign Science Series (2018)
"Downloading Personalized Brain Stimulation"
FutureWorks, NYC (2018)
""Thinking about personalized neuromodulation: Digital healthcare and brain stimulation."
Hunter College, CUNY (2018)
"The biology of transcranial Direct Current Stimulation"
Drexel University (2018)
"Engineering personalized neuromodulation"
University of Maryland School of Medicine - Grand Rounds (2019)
"Mechanisms and applications of non-invasive electrical stimulation."
University of Minnesota, Neuroengineering Seminar (2019)
"New technologies for personalized neuromodulation."
North American Neuromodulation Society (2019)
"Hands-On: Non-Invasive and Wearable Devices, AR/VR for Pain"

North American Neuromodulation Society (2019)
"Non-Invasive Strategies for Affective Neuromodulation"
North American Neuromodulation Society (2019)
"Noninvasive Vagal Nerve Stimulation"
3nd International Brain Stimulation Conference, Vancouver, Canada (2019)
"Downloading Personalized Brain Stimulation"
3nd International Brain Stimulation Conference, Vancouver, Canada (2019)
"Workshop 1:Center and At-Home Methods of tDCS"(2019)
"Neuromodulation devices with lost intensity electric fields."
Bioelectronic Medicine Forum (2019)
Panel discussion "New Devices Up Our Sleeve: Neuromodulation Gets Personal"
GlaxoSmithKline (2019)
"An introduction to Neuromodulation technologies and science."
Google X (2019)
"Neurotechnology."
Joint Meeting: Neuromodulation the Science, NYC Neuromodulation (2019)
"New Engineering of Neuromodulation & Brain Machine Interfaces."
Rochester Neuromodulation Symposium (2019)
"The targeting limits of transcranial electrical stimulation".
Case Western Reserve University (2019)
"Neuromodulation though BBB stimulation or Heating: New Mechanisms of DBS, SCS, and tDCS"
Minnesota Neuromodulation symposium (2020)
"How brain state change response to neuromodulation: Oscillations, connectivity, and plasticity" POSTPONED COVID-19
7th International Conference on Non-Invasive Brain Stimulation, Germany (2020).Plenary
"What do tDCS, tACS,Temporal Interference Stimulation, and ECT have in common?"
7th International Conference on Non-Invasive Brain Stimulation, Germany (2020).
"High-resolution modeling and large-animal validation of transcutaneous direct current stimulation of neurorehabilitation?"
National Center of Neuromodulation for Rehabilitation MUSC Advanced taVNS Symposium (2020)
"Modeling of Brain and Cranial Nerve Activation"
Bioelectronic Medicine Forum (2020)
"New Treatment Modalities"
3rd International Neuroergonomics Conference, Germany, Munich, Germany (2020)
"Can Neuromodulation Make Us Better: Changing Brain Activity with Wearable Brain Stimulation Devices" POSTPONED COVID-19
BioKorea (2020) Online
"High-Definition Transcranial Direct Current Stimulation (HD-tDCS) : Low-power, Targeted, and Non-invasive Electroceuticals for CNS diseases"
BrainBox (2020) Online
"The targeting limits of transcranial electrical stimulation".
MSRI Workshop for Clinical Translation of Implantable Devices (2020) Online
"Translating non-invasive brain stimulation inventions: academic and industry partnerships."
Academy of Aphasia (2020) Online
NIH Keynote "transcranial Direct Current Stimulation (tDCS) boosts capacity for plasticity."
Johnson and Johnson JLABS (2020)
"An introduction to Neuromodulation and 2 big disruptions"
Neurotech Leaders Forum (2020)
Panel: Repelling the Invasion: Surface Stimulation Makes a Comeback

Johns Hopkins, Translational Neuroengineering Technologies Network (2020)
"The Ins and Outs of Direct Current Stimulation"
XII International Symposium on Neuromodulation (2020)
"What tDCS, tACS,Temporal Interference Stimulation, and ECT have in common."
Engineering principles of SCS and DBS: Foundations, industry updates, and emerging concepts (2021)
"Neurostimulation fundamentals: Dose, current flow, and neural activation"
Advances in Translational Direct Current Stimulation in Psychiatric Disorders (2021)
"Best practices and latest developments in tDCS"
Justus Liebig University (2021)
"Technology and fundamentals of tACS."
5th INTF webinars - Individually Optimized Non-Invasive Brain Stimulation (2021)
"Closed-loop Stimulation: Why Bother"
International Conference on Neurosciences and Rehabilitation (2021)
"Non-invasive neuromodulation in the post COVID-19 world"
International Conference on Neurosciences and Rehabilitation (2021) - workshop
Transcranial Direct Current Stimulation (tDCS): Advanced Theory and Practical Demonstration
ASRC Sensor Center for Advanced Technology Virtual Roadshow (2021)
Panelist
Neuroergonomics Conference (2021)
"Can Neuromodulation Make Us Better: Changing Brain Activity with Wearable Brain Stimulation Devices"
Neuroergonomics Conference (2021) workshop
" Introduction to practical methods in low-intensity transcranial Electrical Stimulation"
Penn Brain Science, Translation, Innovation, and Modulation (brainSTIM) Center (2021)
""tDCS for neuropsychiatric post-acute sequelae SARS-CoV-2 infection (PASC) and as a general tool to boost brain vascular function and clearance mechanisms"
XII International Symposium of Neuromodulation (2021)
"transcranial Direct Current Stimulation changes Brain Vasculature"
4th International Brain Stimulation Conference (2021)
"History and recent advancements and changes in computational modeling methods for transcranial electrical stimulation."
4th International Brain Stimulation Conference (2021)
"Workshop 1:Center and At-Home Methods of tDCS"
4th International Brain Stimulation Conference (2021)
Plenary: tDCS news: COVID-19 and PASC treatment, Neuro-vascular modulation, and Games"
Cardiff University (2021)
"Technology and science of transcranial Direct Current Stimulation (tDCS): How to boost brain function and capacity for plasticity."
International Neuromodulation Society's (INS) 15th World Congress (2022), Barcelona
Neurovascular-modulation: A New Mechanistic Paradigm Linking Diverse Invasive and Non-invasive Brain Stimulation Approaches
International Neuromodulation Society's (INS) 15th World Congress (2022), Barcelona
Neuromodulation Devices for Managing COVID-19 Sequelae
American Association for the Advancement of Science (AAAS) Annual Meeting (2022)
Direct Current Stimulation Enhances Plasticity: Implications for Language and Aphasia
North American Neuromodulation Society (2022). Pre-meeting 'Engineering Principles of DBS and SCS in Clinical Practice' (Pre-meeting co-Chair)
"Neurostimulation fundamentals: Dose, current flow, and neural activation"
International Federation of Clinical Neurophysiology (2022) Geneva

““Neurovascular-modulation: How brain stimulation techniques like tDCS, TMS and ECT may activate the blood-brain-barrier?”

Northeast Bioengineering Conference (2022)

“Wearable Neuromodulation for (Long) Covid and Neuro-vascular Modulation”

Bioelectronic Medicine Forum (2022)

New Technologies in Bioelectronic Medicine, panel

National Center of Neuromodulation for Rehabilitation, NC-NM4R (2022)

Workshop on transcranial electrical stimulation at MUSC

Mount Sinai, Friedman Brain Institute, Translational Neuroscience Seminar (2022)

“tDCS for (Long) Covid and Neuro-vascular Modulation”

Carnegie Mellon University, Neural Engineering Seminars (2022)

“Wearable non-invasive brain stimulation as a tool to boost brain vascular function and clearance mechanisms.”

Boston University, Engineering the Brain for Discovery and Clinical Applications (2022)

““Neurovascular-modulation and how a wearable brain stimulation might treat brain disorders from age-related cognitive decline to long-COVID”

International Network of tES fMRI (INTF) Webinar Series 6th Webinar (2022)

“Core Talk 1: Notes on the limits of electric field sensitivity”

International Network of tES fMRI (INTF) Webinar Series 7th Webinar (2022)

“Opening Talk 2: Origins of specificity in brain stimulation studies”

Gordon Center for Medical Imaging, Massachusetts General Hospital, Harvard Medical School (2022)

“Neurovascular-modulation: A new mechanism paradigm for neuromodulation that is actually not really news”

International Symposium of Neuromodulation (2022)

“The creation of High-Definition transcranial Electrical Stimulation: From concept, to testing, to product.”

International Neuromodulation Society (INS) 2022 interim meeting (Mumbai, India).

“tDCS for COVID and Long-COVID”

International Neuromodulation Society (INS) 2022 interim meeting (Mumbai, India).

“Evoked Synaptic Excitatory Potentials (ESAPs): Origins and implications for Spinal Cord Stimulation”

International Neuromodulation Society (INS) 2022 interim meeting (Mumbai, India).

“Neurovascular Modulation: A New Mechanistic Paradigm Linking Diverse Invasive and Non-Invasive Brain Stimulation Approaches.”

North American Neuromodulation Society (2023). Pre-meeting ‘Engineering Principles of DBS and SCS in Clinical Practice’ (Pre-meeting co-Chair)

“Neurostimulation fundamentals: Dose, current flow, and neural activation”

North American Neuromodulation Society (2023)

“SCS: Synaptic Evoked Potentials”

North American Neuromodulation Society (2023)

“SCS: Neurovascular modulation and heating”

49th Northeast Bioengineering Conference (2023)

“Functional neuroimaging as the key to effective neurostimulation: Neuro-vascular Modulation”?

Bioelectronic Medicine Forum (2023)

“Biomarkers Close the Loop in Bioelectronic Medicine”

Spark Biomedical (2023)

“A new framework for using biomarkers to optimize and personalize neuromodulation.”

NAPA Pain, Neuromodulation The Science (NTS) (2023)

“Neuromodulation Techniques and Innovations: A Primer for Healthcare Providers”

Electroneuro, Rio De Janeiro, Brazil (2023)

“Optimizing brain targeting with High-Definition tDCS”

Brain and Human Body Modeling Conference, Martinos Center (2023)
"Neuro-vascular Modulation: what a new mechanism suggests about how brain stimulation works and how to interpret hemodynamic imaging"
Targeting Variability in Transcranial Stimulation Research 2023 (Munich, Germany)
"Categorizing biomarkers for personalized neuromodulation."
Louisiana State University at Baton Rouge Psychiatry Grand Rounds, 2023
"A simple introduction to how neuromodulation devices work."
Medtronic (2023)
"Neuromodulation Design and Biomarkers."
International Neuromodulation Society, Vancouver (2024)
"Neurovascular Modulation: Is the Direct Stimulation of Brain Vasculature as a Therapeutic Mechanism?"
International Neuromodulation Society, Vancouver (2024)
"Sub-Threshold Neuromodulation: Everything Old is New"
International Neuromodulation Society, Vancouver (2024)
"Do we need to understand mechanisms to invent the next breakthrough"
ANT Neuromeeting, Philadelphia (2024)
"Biomakers in closed-loop neuromodulation: What are they good for"
III Symposium on Innovation and Translational Neuroscience and XVI International Symposium on Neuromodulation, Sao Paulo/Online (2024)
"Closing the loop between brain and electrical stimulation: towards precision neuromodulation treatments."
13th Biomedical Engineering and Imaging Institute (BMEII) symposium (New York, NY), 2025
Panel: "Bold Ideas in the Brain-computer Interface"
North American Neuromodulation Society (2023). Pre-meeting 'Engineering Principles of DBS and SCS in Clinical Practice' (Pre-meeting co-Chair)
"Sub-threshold Neuromodulation
Louisiana State University at Baton Rouge Psychiatry Residency, grand rounds (2025)
"How to be a good neuromodulator".
International Brain Stimulation conference, Kobe Japan (2025)
"Wearable disposable brain stimulation"
13th BMEII Symposium (2025)
Session: Bold Ideas in the Brain-Computer Interface

Consulting / Technology Transfer:

EXPERT REPORTS/CONTRACTS:

(Utility / Government -excluding reviewing)

NASA Johnson Space Center: International Space Station EVA shock hazard 2008 subcontract through *Wyle Integrated Science and Engineering*
Jersey Central Power & Light Company, subsidiary of *FirstEnergy Corporation* 2005-07
"Hazards associated with exposure to ultra-low voltages."
Consolidated Edison of New York, 2004 "A review of hazards associated with exposure to low voltages" submitted to the *New York State Public Service Commission*

(Device Industry, selected)

Elsevier (Brain Stimulation), Journal editor
Medical University of South Carolina, Related to neuromodulation device
Wise, Related to electrode
Zabara Family Foundation, Related to neuromodulation

(Joy) Corundum Neuroscience, related to medical device
Lumenis, Related to technology
Ybrain, Related to medical technology
Ceragem, Ceragem Clinical, Related to device
Apple, Related to technology
Google (X), Related to technology
Allergan, Related to medical device
Remz, Related to neuromodulation device
*iLumen,*Related to medical device
Biovisics, Related to medical device
Emoji, Related to human factors
Synopsis (Simpleware), related to models
MECTA, Related to medical device
QEY, Related to a device
QEY-Med, Related to a device
Halo Neuro, member Scientific Advisory Board
GlaxoSmithKline , Related to medical therapies, Scientific Advisory Board
Neuroenhancement Lab, Related to stimulation product
TriStar, Related to a consumer product with electrical stimulation
Electrocore, Related to brain stimulation technology
NuCalm Inc., Related to neuromodulation system
Boston Scientific Corp, Relating to neuromodulation, member Scientific Advisory Board
Medtronic Inc., Physician Sponsored Agreement relating to DBS system
Biophan Technologies. IP analysis related to MRI compatible implants
NevroCorp, Technical analysis relating to SCS system
Ion Channel Innovations, Gene therapy bio-sensor device
Boston Scientific Corp, Relating to biological fluid pumps
Memorial Sloan Kettering Cancer Center, Relating to medical device
Nu Skin, Related to FDA regulation

Litigation support (related technical analysis)

Brown against *The Mount Sinai Medical Center*. Supreme Court of the State of New York No: 306626/08 including *Laserscope (American Medical Systems Inc.)*
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Smith vs. *Jersey Central Power & Light Company*. Superior Court of New Jersey, Law Division, Ocean County No: OCN-L-3236-03
Mackey vs Murray. Supreme Court of State of New York, County of Suffolk No. 23026/05 (*Conair Corp.)*
Estate of Tarun Mal et al. vs. Advance et al. (*Intermatic*) United States District Court, Northern District, OH NO:1:07-CV-02868
Osborn vs. Kiewut Power. (UNITED HYDROGEN OF TENNESSEE, RIVERPORT INSURANCE COMPANY, AES CORP. INDIANAPOLIS POWER & LIGHT) Circuit Court of Pike County. Cause No. 63C01-1409-CT-0002227FOR CONTROL OF BIO-PSYCHIATRIC THERAPEUTIC TRAJECTORY (BTT)"
SUPERIOR COURT OF THE STATE OF CALIFORNIA COUNTY OF LOS ANGELES
DANIEL RICHMOND, et al., vs.SOUTHERN CALIFORNIA EDISON COMPANY, Case No. BC 497689
UNITED STATES INTERNATIONAL TRADE COMMISSION WASHINGTON, D.C. Matter of Certain Non-Invasive Aesthetic Body-Contouring Devices, Components Thereof, and

Methods of Using Same (Investigation No. 337-TA-1219) on behalf of Allergan Limited, Allergan USA, Inc., Allergan, Inc., Zeltiq Aesthetics, Inc., Zeltiq Ireland Unlimited Company, and Zimmer MedizinSysteme GmbH. [KIRKLAND & ELLIS LLP]

Lumenis Be LTD v. BTL Healthcare Technologies A.S., inter partes review (IPRs) [ROPES & GRAY LLP]

HI-DOW International et al. v. Bryan Wheellock et al.. [Haar & Woods, LLP]

Wave Neuroscience, Inc. v. PeakLogic, Inc. et al. UNITED STATES DISTRICT COURT SOUTHERN DISTRICT OF CALIFORNIA. CASE NO.: 3:21-cv-01330-CAB-AGS (*Buckalter*).

Serendia vs X. (LATHAM & WATKINS LLP)

Aerin Medical and The Foundry vs Neurent Medical C.A. No. 23-756 (GBW) (D. Del.). (Finnegan, Henderson, Farabow, Garrett & Dunner), Iinter partes review (IPRs)

INTELLECTUAL PROPERTY: (From >50, redacted)

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PCT International Patent Application "Transcranial Stimulation Models with acoustic integration" RF-CUNY

United Stated Patent Application "Method and device for combining light and electrical stimulation". RF-CUNY

United Stated Patent Application "Brain stimulation device". RF-CUNY

PCT International Patent Application "Method for reducing discomfort during electrostimulation, and compositions and apparatus therfor." RF-CUNY

PCT International Patent Application "Transcranial Stimulation" RF-CUNY

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Mexican Patent Office #302290 ""Method for reducing discomfort during electrostimulation, and compositions and apparatus." (August 13, 2012)

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Selected Abstracts (limited selection, not regularly updated since 2019)

1. P3.002 AT-HOME TELEHEALTH TRANSCRANIAL DIRECT CURRENT STIMULATION FOR TREATMENT RESISTANT DEPRESSION. Amy Vogel-Eyny, Hyein Cho, Giuseppina Pilloni, Allan George, Matthew Lustberg, Abhishek Datta, Marom Bikson, Kamran Nazim, R. Erik Charlson, Leigh Charvet. International Brain Stimulation Conference, 2023

2. P1.177 REMOTELY SUPERVISED TDCS FOR PERSISTENT POST-TRAUMATIC HEADACHE IN VETERANS (RESTORE). Michelle Androulakis, Kiersten Mangold, Adam Harrison, Robert Davis Moore, Siyuan Guo, Jiajia Zhang, Abhishek Datta, Marom Bikson, Leigh Charvet. International Brain Stimulation Conference, 2023

3. P1.055 Transcranial Electrical Stimulation in Stroke EaRly After onset Clinical Trial (TESSERACT). Mersedeh Bahr-Hosseini, Kambiz Nael, Marco Iacoboni, David Liebeskind, Marom Bikson, Jeffrey Saver. DOI:https://doi.org/10.1016/j.brs.2023.01.358. International Brain Stimulation Conference, 2023

4. INTERNATIONAL STROKE CONFERENCE 2023 POSTER ABSTRACTS. SESSION TITLE: CEREBROVASCULAR SYSTEMS OF CARE POSTERS I. Abstract WP36: Transcranial Electrical Stimulation (tdcs) In Stroke Early After Onset Clinical Trial (tesseract) Mersedeh Bahr-Hosseini, Kambiz Nael, Marco Iacoboni, David S Liebeskind, Marom Bikson and Jeffrey L Saver. Originally published2 Feb 2023 https://doi.org/10.1161/str.54.suppl_1.WP36Stroke. 2023;54:AWP36

5. Bioheat model of spinal column heating during high-density Spinal Cord Stimulation. Adantchede L Zannou, Niranjan Khadka, Marom Bikson. 2022 Joint meeting of Neuroergonomics Conference & NYC Neuromodulation Conference

6. Mechanical stimulation by an automatic massage bed : predicting stresses and deformation in human body parts using computational modeling Luis Cardoso 1, Niranjan Khadka 2, Jacek Dmochowski 1, Edson Meneses 1, Kiwon Lee 3, Sungjin Kim 3, Youngsoo Jin 3,4, Marom Bikson 1. 2022 Joint meeting of Neuroergonomics Conference & NYC Neuromodulation Conference

7. Thermal stimulation by an automatic massage bed: predicting temperature and blood flow in human body parts using computational modeling. Jacek P Dmochowski, Niranjan Khadka, Luis Cardoso, Edson Meneses, Kiwon Lee, Sungjin Kim, Youngsoo Jin and Marom Bikson. 2022 Joint meeting of Neuroergonomics Conference & NYC Neuromodulation Conference

8. Transcranial Direct Current Stimulation (tDCS) in children with ADHD: A Randomized, Sham-Controlled Pilot Study. Mitchell Schertz, Yael Karni-Visel, Jacob Genizi, Hofit Manishevitch, Menachem Lam, Ashraf Akawi, Michal Dudai, Andre Fenton, Marom Bikson. 2022 Joint meeting of Neuroergonomics Conference & NYC Neuromodulation Conference

9. Real-Time and Cumulative Changes in Brain Blood Flow and Oxygen Metabolism in Multiple Sclerosis: A Simultaneous tDCS-MRI Study. Marco Muccio, Lillian Walton Masters, Giuseppina Pilloni, Peidong He, Lauren Krupp, Abhishek Datta, Marom Bikson, Leigh Charvet, Yulin Ge. 2022 Joint meeting of Neuroergonomics Conference & NYC Neuromodulation Conference

10. ID 16365 High Density Spinal Cord Stimulation (HD-SCS) Increases Spinal Tissue Temperature. Neuromodulation. VOLUME 25, ISSUE 5, SUPPLEMENT , S79, JULY 01, 2022

11. ID 16279 Neurocapillary-Modulation, Neuromodulation. VOLUME 25, ISSUE 5, SUPPLEMENT , S67, JULY 01, 2022

12. 3th International ADHD Congress 2022 (Israel). “Transcranial Direct Current Stimulation (tDCS) in children with ADHD: A Randomized, Sham-Controlled Pilot Study”

13. Neuronal Response to Transcranial Direct Current Stimulation (tDCS) in Multiple Sclerosis. 2022 ISMRM Meeting

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61. M. Alonso-Alonso, **M**. **Bikson** et al. Translating tDCS into the field of obesity: using computational models to guide parameters and protocols in clinical trials. 31st Annual Scientific Meeting of Obesity Society 2013

62. D.Q. Truong, M. Alam, A. Datta, **M. Bikson**. FEM study of the spatial and polarity precision of 4x1 High-Definition transcranial Direct Current Stimulation (HD-tDCS). Magstim Neuroenhancement Conference & Workshop, Oxford, UK 2013

63. D.Q. Truong, B. Guleyupoglu, A. Datta, P. Minhas, G. Magerowski, M. Alonso-Alonso, L.C. Parra, **M. Bikson**. Inter-individual variation during transcranial Direct Current Stimulation and Normalization of Dose using MRI-derived computational models. Magstim Neuroenhancement Conference & Workshop, Oxford, UK 2013

64. B. Guleyupoglu, P. Schestatsky, F. Fregni, **M. Bikson**. A historical development of transcranial electrical stimulation: Dose Development from 1900 to contemporary approaches. 5th International Conference on Non-invasive Brain Stimulation, Leipzig German 2013

65. D. Reato, **M. Bikson**, L.C. Parra. Long-term effects of weak electrical stimulation on active neuronal networks " (#230) to the Twenty-Second Annual Computational Neuroscience Meeting CNS 2013

66. V. V. Lazarev; T. Tamborino; **M. Bikson**; M. Letícia F. Ferreira; L. deAzevedo Egas, M. Caparelli-Dáquer. Focal EEG effects of High Definition tDCS (HD-tDCS) detected by EEG photic driving. 5th International Conference on Non-Invasive Brain Stimulation 2013

67. M.F. Villamar, P. Wivatvongvana, J. Patumanond, A. Datta, **M. Bikson**, A. Santos Portilla, F. Fregni. Primary Motor Cortex Modulation in Fibromyalgia Patients Using 4x1-Ring High-Definition Transcranial Direct Current Stimulation: Immediate and Delayed Analgesic Effects of Cathodal and Anodal Stimulation. Massachusetts General Hospital Clinical Research Day 2012. Boston, MA. 10/2012.

68. M.F. Villamar, P. Wivatvongvana, J. Patumanond, A. Datta, **M. Bikson**, A. Santos Portilla, F. Fregni. Analgesic Effects of 4x1-Ring High-Definition Transcranial Direct Current Stimulation in Fibromyalgia Patients. 4th International Symposium on Neuromodulation. Sao Paulo, Brazil. 09/2012. Citation: Anais do IV Simpósio Internacional em Neuromodulação, 2012, v1, p1-37. ISBN: 978-85-65408-01-1

69. A. Woods, A. Chatterjee, A. Kranjec, **M. Bikson**, P. Minhas, R. Hamilson. Space, Time, and Causal Inference: a tDCS Study. Society for Neuroscience Abstracts. 2012

70. D. Reato, **M. Bikson** et al. Transcranial electrical stimulation accelerates sleep homeostasis in humans. The Bernstein Conference on Computational Neuroscience 2012

71. B. Lafon, **M. Bikson** et al. Electric field modulation of long-term plastic effects. The Bernstein Conference on Computational Neuroscience. 2012

72. S.K. Kessler, **M. Bikson** et al. Dosage considerations for transcranial direct current stimulation in children: a computational modeling study. 41st Annual Meeting of the Child Neurology Society. 2012

73. R. Hamilton, J. Medina, J. Beauvais, A. Datta, **M. Bikson**, H. Coslett. Transcranial Direct Current Stimulation Enhances Contralateral Visual Target Detection. 64th American Academy of Neurology Annual Meeting, 2012

74. J. Dmochowski, **M. Bikson**, L. Parra. Targeting Deep Brain Regions with Optimized Multielectrode Transcranial Direct Current Stimulation. Biomedical Engineering Society 2011

75. A. Rahman, C. Hahn, L. Oliveira, **M. Bikson**. A Current-Limited Low-Voltage Design For Transcranial Direct Current Stimulation. Biomedical Engineering Society 2011

76. D. Reato, **M. Bikson**, L. Parra. Plastic Effects of Electrical Stimulation on Slow Waves Activity: A Computational Study. Biomedical Engineering Society 2011

77. A. Rahman, D. Reato, L. Parra, **M. Bikson**. Synaptic Pathway-Dependent Effects of DC Electric-Fields in Rat Cortical Brain Slices. Biomedical Engineering Society 2011

78. A.F. Desilva, A. Datta, M.E. Mendonca, S.Zaghi, M. Lopes, M.F. Dossantos, E.L. Spierings, Z. Bajwa, **M. Bikson**, F. Fregni. Chronic migraine alleviation by tdcs is predicted to be associated with current flow through pain-related (sub)corticalregions. international headache society (berlin), 2011

79. C. Colovos, N. P. Rizk , N. Singh, M.S. Bains, **M. Bikson**, V.W. Rusch, P.S. Adusumilli. Real-time Intraoperative Tissue Oxygenation Monitoring by Wireless Pulse Oximetry (WiPOX) to Assess Gastric Conduit Oxygenation During Esophagogastrectomy: A Prospective Feasibility Study, American College of Surgeons, 2011

80. A.F. DeSilva, A. Datta, M.E. Mendonca, S.Zaghi, M. Lopes, M.F. DosSantos, E.L. Spierings, Z. Bajwa, **M. Bikson**, F. Fregni, Migraine Alleviation by tDCS is Predicted to be Associated with Current Flow Through Pain-Related (Sub)Cortical Regions. American Headache Society, 2011

81. D. Reato, **M. Bikson**, L.C. Parra, Intrinsic network dynamics govern sensitivity to weak electric fields: Adaptation, modulation and sub-harmonic pacing. Soc. Neurosci. Abs. 2010

82. A. Rahman, D. Reato, T. Radman, M. Gleichmann, A. Datta, L.C. Parra, **M. Bikson**, Effects of Weak Direct Current Stimulation on Synaptic Plasticity in Rat Motor Cortex in vitro. Soc. Neurosci. Abs. 2010

83. P. Turkeltaub, J. Benson, R. Hamilton, A. Datta, **M. Bikson**, H.B. Coslett. Lateralizing stimulation of the posterior temporal lobes improves reading efficiency. 2011 Cognitive Neuroscience Society Meeting.

84. V. Bansal, A. Datta, D. Reato, J. Patel, L. Parra, E. Wassermann, E. Caparelli-Daquer, **M. Bikson**. High-Density Transcranial Direct Current Stimulation (HD-tDCS) system. II International Symposium in Neuromodulation 2010

85. A. Rahman, T. Radman, A. Datta, D. Reato, **M. Bikson**. Effects of short and long-duration DC electric fields on synaptic efficacy in rat motor cortex slices. II International Symposium in Neuromodulation 2010

86. V. Bansal, A. Datta, D. Reato, J. Patel, L. Parra, E. Wassermannm E. Caparelli-Daquer, **M. Bikson**. High-Density Transcranial Electrical Stimulation (HD-tES). CIMIT Conference 2009

87. T. Radman, R. L. Ramos, J. C. Brumberg, **M. Bikson**. A low cost electrophysiology lab for high school and undergraduate students. Soc. Neurosci. Abs. 2009; 20.2/GG31

88. V. P. Clark, B. A. Coffman, C. Garcua, M. P. Weisend, A. Van Der Merwes, E.S. Brownings, T. Lane, K. Kelly, A. Mayers, E. M. Raybourn, V. D. Calhoun, **M. Bikson**, E. M. Wassermann, J. P. Phillips. Transcranial direct current stimulation (TDCS) targeted with brain imaging greatly accelerates visual learning. Soc. Neurosci. Abs. 2009; 306.14

89. B. Coffman, V. P. Clark, C. Garcua, M. P. Weisend, A. Van Der Merwes, A. Mayers, E.S. Brownings, D. Puffer, V.D. Calhoun, E.M. Wassermann J. P. Phillips, T. Lane, K. Kelly, **M. Bikson**, E. M. Raybourn. Changes in brain networks with learning of covert threat cues. Soc. Neurosci. Abs. 2009; 380.18/FF116

90. T. Radman, A. Rahman, A. Datta, D. Reato, **M. Bikson**. Low-amplitude DC electric fields induce long-term potentiation in rat motor cortex in vitro. Soc. Neurosci. Abs. 2009; 719.8/D4

91. D. Reato, **M. Bikson**, LC. Parra. Low Amplitude Electrical Stimulation Modulates Induced Gamma Activity in Vitro. *3rd Tinnitus Research Initiative Meeting (Stresa, Italy)* 2009

92. D. Reato, LC. Parra, **M. Bikson**. Low-amplitude electric fields modulate the dynamics of a neuronal network oscillating at gamma frequencies. *4th International Workshop on Seizure Workshop (Kansas City)* 2009

93. A. Datta, M. Elwassif, F. Battaglia, **M. Bikson**. Transcranial current stimulation focality using disk and ring electrode configurations: FEM analysis. *Neural Interfaces Conference (Cleveland)* 2008

94. V.Lopez, A. Datta, R. Amaya, M. Elwassif, J. Tarbell, **M. Bikson**. Induced BBB electroporation during DBS: In vitro endothelial monolayer model. *Neural Interfaces Conference (Cleveland)* 2008

95. M. Elwassif, A. Datta, **M. Bikson**. Induced Temperature changes during DBS: Experimental validation of DBS leads 3387/3389 Heat Transfer Model. *Neural Interfaces Conference (Cleveland)* 2008

96. A. Datta, M. Elwassif, V. Bansal, J. Diaz, F. Battaglia, **M. Bikson**. A system and device for focal transcranial direct current stimulation using concentric ring electrode configurations. *3rd International Conference on TMS/tDCS conference (Goettingen)* 2008

97. R. Said, R. Cotton, P. Young, A. Datta, M. Elwassif, **M. Bikson**. Image based-mesh generation for realistic simulation of the transcranial current stimulation. Proc. of COMSOL Conference 2008

98. Datta, M. Elwassif, V. Bansal, J. Diaz, F. Battaglia, **M. Bikson**. A system and device for focal transcranial direct current stimulation using concentric ring electrode configurations. COMSOL Conference 2008

● Popular Choice Poster Award

99. D. Reato, **M. Bikson**, L.C. Parra. Modulation of carbachol-evoked gamma activity in vitro with low-amplitude AC electric fields Soc. Neurosci. Abst. 2008

100. T. Radman, R.L. Ramos, J.C. Brumberg, **M. Bikson**. Role of cortical cell type and neuronal morphology in electric field stimulation" 3rd International Conference on Transcranial Magnetic and Direct Current Stimulation 2008

101. T. Radman, R.L. Ramos, J.C. Brumberg, **M. Bikson**. Targets of cortical electrical stimulation: Layer 5 pyramidal neurons, Neural Interfaces Conference 2008

102. **M. Bikson**, Y Su, T Radman, J An, L Parra Spike timing amplifies the effect of electric fields on neurons: implications for endogenous field-effects Soc. Neurosci. Abst. 2007

103. T. Radman, R. Ramos, **M. Bikson**, J. Brumberg. Target for cortical electrical stimulation: the NMDA receptor. Soc. Neurosci. Abst. 2007

104. A. Datta, Battaglia F **M. Bikson** Simulation of TES focality using common and novel electrode configuration BMES 2007

105. J.H. An, **M. Bikson** et al. Effects of long-term exposure to weak electric fields on synaptic plasticity in rat brain slices. BMES 2007

106. J.H. An, T. Radman, **M. Bikson**. Effects of glucose and glutamine concentration in the formulation of the artificial cerebrospinal fluid (ACSF) *Soc. Neurosci. Abst.* 2006

107. T. Radman, L. Parra, **M. Bikson**. Amplification of small electric fields by neurons; implications for endogenous field-effects *Soc. Neurosci. Abst.* 2006

108. T. Radman, L. Parra, **M. Bikson**. Amplification of small electric fields by neurons; environmental implications. *Vienna University of Technology Junior Scientist Conference*
● Award of Special Recognition

109. **M. Bikson**, Q. Kong, M. Vazquez. Joule heating and electroporation during Deep Brain Stimulation. *NINDS Neural Interface Workshop* 2005

110. Q. Kong, M. Vazquez, **M. Bikson**. Model of Deep Brain Stimulation-induced temperature changes. *Biomedical Engineering Soc.*2004

111. Q. Kong, **M. Bikson**, M. Vazquez. Bio-heat model of Deep Brain Stimulation-induced temperature changes. *Soc. Neuroscience Abst.* 2004

112. L. Parra, **M. Bikson**, C.C, McIntyre. Model of effect of extracellular fields on spike time coherence. *Soc. Neuroscience Abst.* 2004

113. **M. Bikson**, C.C. McIntyre, C.L. Wilson, J.E. Fox, M.G. Lacey, J.G.R. Jefferys. A role for extracellular potassium concentration changes in the modulation of neuronal firing during high frequency stimulation of subthalamic nucleus *in vitro*. *Soc. Neuroscience Abstr.* 734.3, 2003

114. J.E. Fox, **M. Bikson**, J.G.R. Jefferys. Tissue resistance changes and the profile of scychronised neuronal discharges during low calcium field bursts. *Soc. Neuroscience Abstr.* 411.10, 2003

115. J.K. Deans, **M. Bikson**, J.E. Fox, J.G.R. Jefferys. Effects of AC fields at powerline frequencies on gamma oscillations *in vitro*. *Soc. Neuroscience Abstr.* 258.1, 2003

116. A. Ruiz-Nuno, **M. Bikson**, J.E. Fox, J.G.R. Jefferys. Role of synaptic mechanisms and depolarization block in the high-K^+ model of epileptiform activity. 6th IBRO World Congress of Neuroscience. 2348, 2003

117. **M. Bikson**, J.E. Fox, J.G.R. Jefferys. Role of field effects in controlling the profile of sychronised neuronal discharges in the low calcium model of epilepsy. 6th IBRO World Congress of Neuroscience. 1333, 2003

118. D.M. Durand, J. Lian, **M. Bikson**. Suppression of epileptiform activity by high frequency stimulation in-vitro. *American Epilepsy Soc*. 1.074, 2002

119. J.E. Fox, **M. Bikson**, J.G.R. Jefferys. The role of depolarisation block in the low calcium model of epilepsy. *American Epilepsy Soc*. 1.076, 2002

120. **M. Bikson**, C. McIntyre, M. Inoue, H. Akiyama, J.E. Fox, W.M. Grill, H. Miyakawa, J.G.R. Jefferys Effect of uniform DC electric fields on CA1 hippocampal pyramidal neurons. *Soc. Neuroscience Abstr.* 446.1, 2002

121. A. Ruiz Nuno, **M. Bikson**, J.E. Fox, M. Vreugdenhil, J.G.R. Jefferys. Local glutamate application induces high-frequency (>80 Hz) oscillations in the absence of synaptic transmission. *Soc. Neuroscience Abstr.* 187.4, 2002

122. **M. Bikson**, C.C. McIntyre, W.M. Grill, J.E. Fox, J.G.R. Jefferys. Effects of uniform DC electric fields on hippocampal function in-vitro. *Federation of European Neuroscience Societies* 187.3, 2002

123. J.E. Fox, **M. Bikson**, P.J. Hahn, J.G.R. Jefferys. Neuronal firing is not necessary for maintenance of ictal epileptiform events. *Federation of European Neuroscience Societies* 187.13, 2002

124. J. Lian, **M. Bikson**, J. Shuai, D.M. Durand. Propagation of epileptiform activity across a lesion. *Soc. Neuroscience Abstr.* 2001

125. J.E. Fox, **M. Bikson**, J.G.R. Jefferys. Minimum neuronal aggregate necessary for the generation of epileptiform discharges in the hippocampal slice exposed to low Ca ACSF. *Soc. Neuroscience Abstr.* 2001

126. M. Nakagawa, **M. Bikson**, D.M. Durand. A novel intact preparation for studying patterns of activity in the hippocampus. *Soc. Neuroscience Abstr.* 2000.

127. Durand, D.M. **M. Bikson**. Effects of High Frequency Stimulation on Cortical Neuronal Firing. *Biomedical Engineering Soc.* 2000

128. **M. Bikson**, J. Lian, D.M. Durand. Suppression of Epileptiform Activity by High Frequency Sinusoidal Fields. *World Congress on Medical Physics and Biomed. Eng. Conference Proceedings.* 2000

129. J. Lian, **M. Bikson**, J.W. Shuai, D.M. Durand. Propagation mechanism of epileptiform activity in the non synaptic model. *15th Annual Applied Neural Control Research Day,* Cleveland, 2000

130. **M. Bikson**, S.C. Baraban, D.M. Durand. Modulation of non-synaptic epileptiform activity by osmolarity. *Soc. Neuroscience Abstr.* 25:1869, 1999.

131. **M. Bikson**, J. Lian, D.M. Durand. Effect of high frequency stimulation on epileptiform activity in the hippocampus. *Soc. Neuroscience Abstr.* 25:1870, 1999.

132. P.J. Hahn, **M. Bikson**, D.M. Durand. A novel intact preparation for studying patterns of activity in the hippocampus. *Annals of Biomedical Engineering* 26: S-105, 1998

133. **M. Bikson**, R. Ghai, S.C. Baraban, D.M. Durand. Modulation of burst frequency, width, and amplitude in the zero-Ca model of epileptiform activity. *Soc. Neuroscience Abstr.* 24:1213, 1998.

134. R. Ghai, **M. Bikson**, and D.M. Durand. Electric field suppression of low Calcium epileptiform activity in the rat brain. *Soc. Neuroscience Abstr.* 24:1213, 1998.

Teaching / Instruction [limited selection]

City College of New York (Primary Instructor/Course Director)
*Indicates courses (co)developed and initially offered at CCNY by M. Bikson

BME I5100 Non-linear signal processing in biomedicine (2003). Grad.

BME 505 Biomedical Signal Processing and Instrumentation (2004). Grad/Undergrad.

BME 101 Introduction to Biomedical Engineering (2004, 2005, 2006, 2007, 2011, 2013) Undergrad

*BME 310 Experimental Methods in BME 1 (2005, 2007, 2008, 2009) Undergrad.

*BME 450/460 Biomedical Senior Design II (2005, 2006. 2007, 2008, 2009, 2010, 2012, 2014, 2015, 2016, 2017. 2019. 2020) Undergrad

BME I000 Biomedical Engineering Seminar (2005, 2006, 2007) Seminar Director

*BME G3000/I3000 (BME 553) Introduction to Neural Engineering (2004, 2006, 2008, 2009, 2011, 2013, 2015, 2017, 2022, 2024) Grad

*BME 405 Biomedical Transducers and Instrumentation (2005, 2006, 2007, 2008, 2009. 2010, 2011, 2012, 2013, 2014, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023) Undergrad.

BME 205 Biomedical Circuits (2023)

City University of New York, Graduate Center (Course module)

Biophysics: Excitable membranes (2006) Grad

Diseases of the Nervous System: Epilepsy (2007, 2008, 2011, 2013) Grad

Masters in Translational Medicine (2020. 2021. 2022, 2024) Grad

Albert Einstein College of Medicine (Course module)

Neurological illnesses, module on Epilepsy, basic mechanisms (2006) Grad/Medical
Translational Neuroscience (2015) Grad

Columbia (Guest lecture)

Neuroscience Lecture Series, program in Neuroscience and Education at Columbia University's Teachers (2018, 2019)

Drexel University (Guest lecture)

Emerging topics on neuroengineering and neuroergonomics (2020)

Carnegie Mellon University (Guest Lecture)

Neuroengineering (Instructor Bin He). "Transcranial Electrical; Stimulation" (2023)

Additional Innovative Instructional activities

Chair, CCNY BME undergraduate curriculum committee (2018-)

M-PI Bridges to the Baccalaureate Research Training Program at LaGuardia Community College, NIH funded (2020-2025)

Faculty mentor, G-RISE program is to focus biomedical research and professional skills development on UR PhD trainees at CCNY, NIH funded (2020-2025)

Development of new CCNY Neural Engineering course (2006)

Organization, course design, selection of equipment for CCNY BME 450/460 (2005)

Design of room architecture for CCNY BME 450/460 Biomedical Senior Design Lab, Room B41 (2004-2006)

Consolidation of modules and selection/purchase/installation of equipment for CCNY BME 310

Experimental Methods in CCNY BME (2003-2004).

Design of room architecture for CCNY BME 310 Instrumentation Teaching Lab (2003-2005).

Restructured CCNY BME Signal Processing, Instrumentation, Imaging, and Sensors curriculum (with Lucas Parra, 2003)

Presentation to CCNY Masters in Translational Medicine, graduate "Translational Neural Engineering" undergraduates" 2020-2023

Presentation to CCNY Engineering 101 undergraduates "Biomedical Engineering" 2018-2023

Presentation to CCNY COURT undergraduates "Engineering solutions to cancer." 2005

Organized presentation to CCNY Eta Kappa Nu (2004) – "What do electrical engineers do in biomedical engineering."

Advising and Mentoring

Doctoral Student Advisor*:

Datta A (2004-2011) 'Model of non-invasive Controlled Transcranial Electrical Stimulation'
Radman T (2005-2010) 'Effects of electric fields on spike timing'
Elwassif M (2006-2012) 'Design of Controlled Transcranial Electrical Stimulation system'
Reato D (2009-2013) 'Modulation of oscillations with tACS'
Rahman A (2011-2016) 'Cellular mechanisms of tDCS'
Truong D (2013-2019) 'Optimization of tDCS current flow'
Khadka N (2016-2020) 'Influence of transdermal current flow in tDCS-induced cutaneous adverse events'
Adair D (2016-2021)
Esmaeilpour Z (2017-2022)
Unal G (2017-2022)
Zannou AL (2018-2022)
Walsh K (2022-2023)

Gebodh N (2019-)
Fallah Rad M (2020-)
Belali Koochesfahani M (2023-)

**2012 CCNY Mentoring Award in Architecture, Biomedical Education, Engineering and Science*

Master's Thesis/Project Advisor:

Joshua K (2007) 'Sensitivity of brain tissue to temperature'
Maani S (2006-2007) 'Design of stimulation isolation unit'
Elwassif M (2005-2006) 'Bio-heat transfer model of Deep Brain Stimulation'
Shtaiwi F (2005-2006) 'Experimental measurement of DBS induced temperature changes in model system'
Bansal V (2007-2009) 'Electrodes for HD-tDCS'
Patel J (2007-2009) 'Hardware for non-invasive brain stimulation'
Mathias H (2010, co-advisor visiting scholar, Germany) 'BONSAI interface for tDCS'
Rahman A (2009-2011) 'Cellular effects of tDCS'
Naguib T (2010-2012) 'Electroporation for cancer devices'
Hahn C (2012, co-advisor visiting scholar, Germany) 'Limited Total Energy tDCS'
Truong D (2011-2013) 'Role of skin far in tDCS current flow'
Lietch L (2011-2013) 'Design, Product Development, and Risk Assessment of Tin (Sn) run electrodes as a substitute to Silver-Silver Chloride (Ag|AgCl) ring electrodes for High-Definition transcranial Direct Current Stimulation (HD-tDCS)'
Guleyupoglu B (2011-) 'Electrodes for extended HD-tDCS'
Minhas P (2013-) 'Validation of current flow modeling'
Seibt O (2013-) 'Design of montages for depression control'
Kronberg G (2013-) 'Modulation of plasticity with DCS'
Nair A (2011-2013) 'Modeling of tDCS in cancer therapy'
Thomas C (2013-) 'Overview of tDCS use and sessions'
Jun J (2015-2017) 'Design development and performance study of a novel device to assist toddlers and children with visual impairments to learn walking'
Bernstein H (2016-2018) Electrode and Headgear Design for Accurate TDCS
Thahsin M (2022-2023) HD enhanced performance
Donnery K (2023-) Ear device mode

Doctoral and Graduate Student Mentoring:

Su Y (2003) 'High-frequency electrical stimulation of high-K+ epileptiform activity'
Wyatt K (2004) 'Model of neuronal aggregate formation'
Rosenstein F (2005) 'Patch-clamp electrophysiological system configuration'
Fan Z (2004-2005) 'Effects of electric fields on spike timing'
Kong Q (2004-2012) 'Transient bio-heat transfer model of DBS'
Thansin M (2022-2023) 'Electrode design'

Ph.D. Committee Member:

Hahn P (Case Western Reserve University) 2004 'Model of extracellular potassium diffusion'
Ng Johnny (City University) 2006-2012
Su Y (City University) 2006-2012
Huang A (City University) 2009-2016

Lafon B (City College) 2011-2016
Steinemann N (City College) 2012-2016
Liu P (Hunter College) 2015-2017
Eldib M (City College) -2016
Sing T (City College) 2015-
Alzahraa Amer (City College) 2016-
Judy Alper (2016-)
Marko Mikkonen, Aalto University (2019) "Individualized Computational Modeling of Transcranial Direct Current Stimulation
Han Lu. (2020) "University of Strasbourg"
Kivilcim Afacan-Seref (2020) CCNY "MECHANISMS OF VALUE-BIASED PRIORITIZATION IN FAST SENSORIMOTOR DECISION MAKING"
Alzahraa Amern (2021) "Neuroplasticity of the Corticospinal System: Applications of Neuromodulation-Based Therapies"
Maximilian Nentwich (2021) "NEURAL RESPONSES TO NATURALISTIC STIMULI"
Lukas Hirsch (2023)
Forouzan Farajani (2023)
Gabriel Gaugauin (2023)

M.S. Committee Member:
Guadron L (2014)
Agyeman K (2016-2017)
Malave A (2024)

Undergraduate Research Mentoring:

Chiu J (2007) 'Design of novel system for electro-chemotherapy of solid tumors'
Bracco J (2007-2008) 'Long term effects of electric fields on hippocampal slices'
Vaynshteyn J (2007-2009) 'Electric field modulation of motor cortex function'
Miranda D (2004-2006) 'Role of GABAergic function in the high-K+ model of epilepsy'
Stern A (2004-2005) 'Experimental measurement of DBS induced temperature changes in a bath'
Pierre V (2006-2007) "Measurement of heating near DBS electrode"
Hordof J (2006) "Effects of electric fields on brain slice function"
Belisha I (2004-2007) 'Measurement of extracellular potassium transients during high-frequency electrical stimulation'
An JH (2005-2010) 'Effects of glucose and glutamine concentration in the formulation of the artificial cerebrospinal fluid (ACSF)'
Banerjee S (2005-2006) Web-site content maintenance
Davis L (2006) 'Design of system for culture electrical impedance measurement'
Macuff S (2010) 'Electronics for brain stimulation control'
Arce D (2010-2013) 'Assembly methods for brain stimulation instrumentation'
Febles N (2010-2011) 'Pre-treatment to increase tolerability during DCS'
Xie B (2011) "Spheres simulation environment"
Ho J (2008-2012) 'Electrodes for High-Definition tDCS'
Refayat Bhuiyan MD (2011-2012) 'Segmentation for tDCS modeling'
David A (2012-) 'Modeling of new tDCS montages'
Alam M (2012-) 'Optimization of HD-tDCS protocols'
Patel V (2013-) 'Next generation HD-tDCS electrode testing'
Goh S (2012-) 'Design of HD-tDCS hydogels'
Fang Xiao (2013-2014) "Optimization of tDCS gels"
Hochberg S (2013, JHU student) 'Formulation of hydrogels for tDCS'
Mourdoukoutas A (2014-) 'New models for electrotherapy'
Thomas C (2014-) "Meta-analysis of tDCS sessions"

Chen A (2014-) "Epileptiform threshold for gamma oscillations under DCS"
Khada N (2012-2014) "Method electrode impedance monitoring during multi-channel tES"
Grossman P (2014-) "WiPOX stimulation"
Sobur C (2014-) "Neuromodulation trial for enhanced mood"
Boateng A (2014-) "Simulation system for DBS"
Zannou A (2014-) "Temperature changes under tDCS"
Griepp D (2015-2016) – "Cranial nerve stimulation"
Jian J (2015-) "Concentric spheres models"
Paneri P (2013-) "Toolbox for tDCS"
Press KP (2016) "Modeling solutions for tDCS"
Saad RG (2016-) "Increased tolerability electrode"
Saleh Z (2015-2016) "Biomedical Instrumentation."
Aboseria M (2014-2015) "Advanced designed for tES"
Postolache T (2017) "The toddler cane"
Islam T (2017) "Data management."
Dressler L (2021) "SCS heating"
Poon C (2022) "ECT electrode impedance"
Canela C (2021) "ECT physics"
Nasimova M (2023) "Thermo-mechanical bed modeling"
Lily H (2022-2023) "Wearable stimulator"
Arghu K (2022-2023) "Wearable stimulator"
Jacome K (2022-2023) "Wearable stimulator"
Bhaskar V (2022-2023) "ESAPS"

Undergraduate Advising

BME Undergraduate Faculty Advisor: ~14 BME students/ year

Undergraduate Senior Design Supervision

2005-2006 3 student teams (with Luis Cardoso)
2006-2007 2 student teams (with Luis Cardoso)
2007-2008 5 student teams (with Luis Cardoso)
Fall 2013 6 student teams
2013-2014 40 students (with Sihong Wang)
2015-2016 60 students (with Maribel Vazquez)
2016-2017 55 students (with 2 other faculty)
2019-2020 45 students (with Alessandra Carriero)
2020-2021 50 students (With Sihon Wang)