

Curriculum Vitae

Name: Bin He, PhD

Current Position: Trustee Professor of Biomedical Engineering
Professor of Neuroscience Institute
Professor of Electrical and Computer Engineering (Courtesy)
Carnegie Mellon University

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Department of Biomedical Engineering
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Education and Training

1978-1982	BS, Electrical Engineering Zhejiang University, CHN
1982-1985	MS, Electrical Engineering Tokyo Institute of Technology
1985-1988	PhD, Bioelectrical Engineering Tokyo Institute of Technology
1988-1989	Postdoctoral Fellow Tokyo Institute of Technology
1989-1991	Postdoctoral Fellow Harvard University – MIT Division of Health Sciences and Technology Massachusetts Institute of Technology, Cambridge, MA

Selected Honors and Recognitions

2026	Professional Impact Award for Leadership American Institute of Medical and Biological Engineering (AIMBE)
2024	AIMBE Earl Bakken Lecture Award
2023-	Editor-in-Chief, IEEE Reviews in Biomedical Engineering
2022	Fellow, National Academy of Inventors
2020	Top Influential Engineers Today, Academic Influence
2019	IEEE EMBS William J. Morlock Award
2019-	Trustee Professorship in Biomedical Engineering, Carnegie Mellon University
2018-2021	Elected to Chair of International Academy of Medical & Biological Engineering
2017	IEEE Biomedical Engineering Award
2017	Fellow, Biomedical Engineering Society
2015	IEEE EMBS Academic Career Achievements Award
2013-2018	Editor-in-Chief, IEEE Transactions on Biomedical Engineering
2012	Fellow, International Academy of Medical & Biological Engineering
2012-2017	Medtronic-Bakken Endowed Chair, University of Minnesota
2009-2010	Elected to President of IEEE Engineering in Medicine and Biology Society
2009-2018	Distinguished McKnight University Professorship, University of Minnesota
2007-2008	Elected to President of International Society for Functional Source Imaging
2005	Fellow, American Institute of Medical & Biological Engineering

2004	Fellow, IEEE
2002-2005	Elected to President of International Society of Bioelectromagnetism
2002	Faculty Research Award, University of Illinois at Chicago College of Engineering
2001	American Heart Association Established Investigator Award
1999	University of Illinois University Scholar Award
1999	National Science Foundation CAREER Award

Professional and Administrative Appointments

2025-present	Chair, Modulation and Imaging of Neural Circuits Study Section, NIH
2021-present	Director, Neural Interfacing Training Program, Carnegie Mellon University
2019-present	Trustee Professor of Biomedical Engineering, Carnegie Mellon University
2019-present	Professor of Neuroscience Institute, Carnegie Mellon University
2018-present	Professor of Biomedical Engineering, Carnegie Mellon University
2018-present	Professor of Electrical & Computer Engineering, Carnegie Mellon University (Courtesy)
2019-2022	Member, Steering Committee, Neuroscience Institute, Carnegie Mellon University
2018-2021	Head, Department of Biomedical Engineering, Carnegie Mellon University
2004-2018	Professor of Biomedical Engineering, University of Minnesota (UMN)
2012-2017	Director, Institute for Engineering in Medicine, UMN
2010-2012	Associate Director for Research, Institute for Engineering in Medicine, UMN
2012-2017	Director of Graduate Studies, Neuroengineering PhD Minor, UMN
2007-2017	Founding Director, Center for Neuroengineering, UMN
2011-2018	Director, NSF IGERT Neuroengineering Training Program, UMN
2008-2018	Director, NIH T32 Neuroimaging Training Program, UMN
2004-2006	Director of Undergraduate Studies, Department of Biomedical Engineering, UMN
2014-2017	Member, Executive Steering Committee, Office of Vice President for Research, UMN
2013-2017	Member, MnDrive Brain Conditions Steering Committee, UMN
2007-2017	Member, Steering Committee, Institute of Translational Neuroscience, UMN
2004-2018	Graduate Faculty in Neuroscience, UMN
2004-2018	Graduate Faculty in Electrical and Computer Engineering, UMN
2003-2004	Professor of Bioengineering and of Electrical and Computer Engineering, University of Illinois at Chicago
2002-2003	Director of Undergraduate Studies, Department of Bioengineering University of Illinois at Chicago
2000-2003	Associate Professor of Bioengineering and of Electrical and Computer Engineering University of Illinois at Chicago
1994-2000	Assistant Professor of Electrical Engineering and Computer Science, and of Bioengineering, University of Illinois at Chicago
1991-1994	Research Scientist Harvard University – MIT Division of Health Sciences and Technology

Active Grants

06/23-05/27	NIH R01 NS127849-01A1 (PI: He) "Imaging Focal Epilepsy Sources by Means of Biophysically Constrained Deep Neural Networks"
04/22-03/27	NIH 2R01 NS096761 (PI: He) "Electrophysiological source imaging of partial epilepsy"
09/23-08/26	NIH RF1 NS131069 (PI: He) "Electrophysiology-Compatible Wearable Transcranial Focused Ultrasound Neuromodulation Array Probes"

- 09/21-08/26 NIH R01 NS124564-01/RF1 NS124564-02 (PI: He)
 “Characterization of in vivo neuronal and inter-neuronal responses to transcranial focused ultrasound”
- 09/21-08/26 NIH T32 EB029365 (PI: He)
 “Integrative training in neural interfacing”

Selected Completed Grants over the Past 10 Years as PI/Co-PI

- 09/19-09/23 NIH U18 EB029354 (PI: He)
 “Treating pain in sickle cell disease by means of focused ultrasound neuromodulation”
- 09/16-05/23 NIH R01 AT009263 (PI: He)
 “Mind-body awareness training and brain-computer interface”
- 06/16-01/23 NIH R01 EB021027 (PI: He)
 “Spatio-temporal dynamic imaging of seizure sources”
- 07/17-05/22 NIH RF1 MH114233 (PI: He)
 “Electrophysiological source imaging guided transcranial focused ultrasound”
- 06/16-03/22 NIH R01 NS096761-01 (PI: He)
 “Electrophysiological source imaging of partial epilepsy”
- 08/13-05/19 NIH U01 HL117664 (Contact PI: Gupta; Role: Co-PI)
 “Cannabinoid-based therapy and approaches to quantify pain in sickle cell disease”
- 04/15-03/20 NIH 2T32 EB008389-06A1 (PI: He)
 “Integrative training program in neuroimaging”
 (Resigned from the PI position due to institutional move as of Feb 1, 2018)
- 09/11-08/18 NSF DGE-1069104 (PI: He)
 “IGERT: Interacting with the brain: mechanism, optimization, and innovation”
 (Resigned from the PI position due to institutional move as of Feb 1, 2018)
- 04/16-03/18 NIH 1S10OD021721-01 (PI: He)
 “MRI-compatible integrated NIRS/EEG system for applications to clinical neuroscience”
- 03/15-02/18 NIH U01 HL127479 (Contact PI: Muscoplat; Role: multiple PI)
 “MIN-REACH research evaluation and commercialization hub”
- 09/12-08/17 NIH R01 EY023101 (PI: He)
 “CRCNS: Spatiotemporal imaging study of the mechanisms of binocular rivalry”
- 09/13-08/17 NIH R21 EB017069-01A1 (PI: He)
 “Magnetic resonance electrical property tomography”
- 09/14-08/17 NSF CBET-1450956 (PI: He)
 “BRAIN EAGER: High-resolution multimodal acousto-electromagnetic neuroimaging of brain activity”
- 09/13-08/17 NSF CBET-1264782 (PI: He)
 “A Brain centered neuroengineering approach for motor recovery after stroke: Combined rTMS and BCI training”

Selected Media Coverage

NPR
 BBC News
 ABC News
 CBS News
 NBC News
 CNN

Washington Post
 New York Times
 Wall Street Journal
 Fox News
 Economist
 Bloomberg
 US News and World Report
 Sunday Times
 MIT Technology Review
 Scientific American
 Daily Mail
 Star Tribune
 Big Ten Network
 New Scientist
 London Telegraph
 NIH Records
 NSF Stories
 NIBIB Science Highlights
 The Institute of IEEE
 Communications of the ACM
 IEEE Pulse

Plenary/Keynote and Named Lectures

- 2026 Keynote Lecture, Bidirectional Brain-Computer Interface, IEEE/ACM International Conference on Connected Health: Applications, Systems and Engineering Technologies (CHASE) 2026, Pittsburgh, August 2026
- 2026 Keynote Lecture, Noninvasive Brain-Computer Interface for Robotic Hand Control, International Conference on Artificial Intelligence, Machine Learning, and Robotics (AIMLR 2026), Rome, July 2026
- 2026 Plenary Lecture, Bidirectional Brain-Computer Interfaces: Challenges and Opportunities, 12th WACBE World Congress on Bioengineering, Changzhou, July 2026.
- 2025 Keynote Lecture, Transcranial Focused Ultrasound Neuromodulation, ANT Neurometing 2025, Philadelphia, April 2025.
- 2025 Keynote Lecture, Dynamic Brain Mapping and Brain-Computer Interface, 9th International Conference on Biomedical Engineering and Applications, Seoul, Feb 2025.
- 2024 Zweifach Lecture, Dynamic Brain Mapping and Brain-Computer Interface, City College of New York, New York, Nov 2024.
- 2024 Earl Bakken Lecture, Dynamic Imaging and Interfacing with the Brain by Means of ML/AI, Annual Event of American Institute of Medical and Biological Engineering, DC, March 2024.
- 2023 Keynote Lecture, AI for Mapping and Interfacing with the Brain, IEEE EMBS International Conference in Biomedical and Health Informatics, Pittsburgh, Oct 2023.
- 2023 Keynote Lecture, Bidirectional Brain-Computer Interface, International Conference of Human Augmentation and Performance Modeling, August 2023 (online).
- 2023 Keynote Lecture, How ML/AI Helps EEG to Become an Imaging Modality? The 16th Brain Informatics Conference, Hoboken, Aug 2023.
- 2023 Keynote Lecture, AI for Mapping Brain Dynamics and Managing Intractable Epilepsy, Georgia Tech Suddath Symposium, Atlanta, March 2023.
- 2022 Nobel Fest Lecture Series, Brain-Machine Intelligence – Mind Over Mechanics, Oct 2022 (online).

- 2022 Keynote Lecture, Dynamic Imaging and Localization of Brain and Cardiac Rhythm Disorders, 17th IEEE International Summer School and Symposium on Medical Devices and Biosensors, August 2022 (online).
- 2022 Keynote Lecture, Dynamic Brain Imaging and Brain-Computer Interface, IEEE EMBS International Summer School of Neural Engineering, July 2022 (online).
- 2022 Maury Strauss Distinguished Public Lecture, Virginia Tech, Dynamic Brain Imaging and Brain-Computer Interface, May 2022.
- 2022 Keynote Lecture, Electrophysiological Source Imaging of Epileptic Tissue, 3rd International Conference on Medical Imaging and Case Reports, March 2022 (online).
- 2021 Plenary Lecture, The Inverse Problem of Brain Electromagnetic Fields: Recent Advancement and Applications, 8th International Conference on Electromagnetic Field Problems and Applications, October 2021 (online).
- 2021 Keynote Lecture, Mind Control: Why, What and How, 20th World Congress of Psychophysiology, September 2021 (online).
- 2019 Plenary Lecture, Neural imaging, Interfacing, and Modulation – Challenges and Opportunities, 2019 China Biomedical Engineering Conference, Jinan, November 2019.
- 2019 Beishizhang Lecture, Institute of Biophysics, Chinese Academy of Sciences, Dynamic Brain Mapping and Interfacing with the Brain, Beijing, June 2019.
- 2018 Plenary Lecture, Dynamic Mapping and Interfacing with the Brain, 9th Cairo International Biomedical Engineering Conference, Cairo, December 2018.
- 2018 Plenary Lecture, Electrophysiological Source Imaging and Brain-Computer Interface using EEG, Joint Meeting of EEG & Clinical Neuroscience Society, International Society for Functional Source Imaging, International Society for Brain Electromagnetic Topography, and International Society for Neuroimaging in Psychiatry, Pittsburgh, September 2018.
- 2018 Keynote Lecture, University of Pittsburgh BIOE DAY, Understanding and Interfacing with the Brain – A Neuroengineering Journey, Pittsburgh, April 2018.
- 2017 Plenary Lecture, Inverse Imaging: What, How, and the Impact to Health, 39th Annual International Conference of IEEE EMBS, Jeju Island, July 2017.
- 2017 Plenary Lecture, Mind-control of a Robot: Principles and Challenges, Robotic Alley Conference & Expo, Minneapolis, March 2017.
- 2016 Keynote Lecture, Mapping and Interfacing with the Brain: Challenges and Opportunities, Future Technology Conference, San Francisco, December 2016.
- 2016 BRAIN Plenary Symposium Lecture, Electrophysiological Neuroimaging and Brain-Computer Interfaces, 38th Annual International Conference of IEEE EMBS, Orlando, August 2016.
- 2016 Plenary Lecture, Mapping and Interfacing with the Human Brain, IEEE International Joint Conference on Neural Networks, Vancouver, July 2016.
- 2015 Opening Keynote Lecture, Bioelectricity and the Brain: From EEG to BCI, International Conference on Basic and Clinical Multimodal Imaging, Utrecht, September 2015.
- 2015 Palmer Distinguished Lecture, Department of Electrical and Computer Engineering, Iowa State University, Mapping and Interfacing with the Brain, Ames, April 2015.
- 2014 Keynote Lecture, BRAIN Initiative and Dynamic Brain Mapping, International Workshop on Brain Technology Initiative, Shanghai, December 2014.
- 2014 Plenary Lecture, Mapping and Decoding Brain Dynamics in vivo, IEEE EMBS BRAIN Grand Challenges Conference, Washington DC, November 2014.
- 2014 Integrative Medicine Research Lecture, NIH, How to Map the Dynamics of Your Brain – From EEG to BCI, Bethesda, September 2014.
- 2014 Theme Keynote Lecture, Dynamic Mapping and Interfacing with the Human Brain, IEEE EMBS Annual International Conference, Chicago, August 2014.
- 2014 Hamlyn Distinguished Lecture, Imperial College, Mapping and Interfacing with the Brain, London, June 2014.

- 2013 Keynote Lecture, Mind Controlled Medical Devices, MD & M Minneapolis Conference, Minneapolis, October 2013.
- 2013 Plenary Lecture, High-resolution Dynamic Neuroimaging of Brain Activity, NSF Workshop on Mapping and Engineering the Brain, Arlington, August 2013.
- 2013 Plenary Lecture, Engineering the Future of Medicine, Design of Medical Devices Conference, Minneapolis, April 2013.
- 2012 Keynote Lecture, Challenges and Opportunities in Neuroengineering: Understanding and Interfacing with the Brain, Design of Medical Devices Conference, Minneapolis, April 2012.
- 2011 Keynote Lecture, Functional Neuroimaging, Yangtze River International Conference on the Applications of Medical Imaging Physics & The 6th National Annual Meeting of Medical Imaging Physics, Hangzhou, October 2011.
- 2011 Plenary Lecture, Spatio-Temporal Functional Neuroimaging of Brain Activity, 5th IEEE EMBS International Conference on Neural Engineering, Cancun, April 2011.
- 2010 Keynote Lecture, Electrical Source and Impedance Imaging: Challenges and Opportunities, Workshop on MR-based Impedance Imaging, Seoul, December 2010.
- 2010 Plenary Lecture, Imaging and Interacting with the Brain: Challenges and Opportunities, Annual Conference of Chinese Society of Biomedical Engineering, Beijing, December 2010.
- 2010 Keynote Lecture, Toward High-resolution Spatio-temporal Functional Brain Imaging, IEEE – EMBS Forum on Grand Challenges in Neuroengineering, Bethesda, May 2010.
- 2010 Plenary Lecture, XIVth Conference on Electrical Biomedance and the 11th Conference on Biomedical Applications of Electrical Impedance Tomography, Gainesville, April 2010.
- 2009 Plenary Lecture, Emerging Frontiers in Biomedical Engineering and Functional Neuroimaging, Chinese Conference on Biomedical Engineering, Chongqing, October 2009.
- 2009 Keynote Lecture, Neuroengineering: Opportunities and Challenges to Reverse Engineer the Brain, Second International Conference on BioMedical Engineering and Informatics and the Second International Congress on Image and Signal Processing, Tianjin, October 2009.
- 2009 Plenary Lecture, Functional Imaging of Brain and Heart Activity, Joint Meeting of the 7th International Symposium on Noninvasive Functional Source Imaging & 7th International Conference on Bioelectromagnetism, Rome, May 2009.
- 2008 Keynote Lecture, Functional Neuroimaging of Dynamic Brain Activity, 5th International Conference on Information Technology and Applications in Biomedicine, Shenzhen, May 2008.
- 2007 Keynote Lecture, Electrophysiological Neuroimaging: Past, Present and Future, Joint Meeting of the 6th International Symposium on Noninvasive Functional Source Imaging of Brain and Heart and the International Conference on Functional Biomedical Imaging, Hangzhou, October 2007.
- 2007 Keynote Lecture, Electrophysiological Imaging of Brain and Cardiac Electrical Activity, The 6th International Conference on Bioelectromagnetism, Aizu, October 2007.
- 2005 Plenary Lecture, Electrocardiographic Imaging: From 2-dimension towards 3-dimension, Joint Meeting of 5th International Conference on Bioelectromagnetism and 5th International Symposium on Noninvasive Functional Source Imaging within the Human Brain and Heart, Minneapolis, May 2005.
- 2004 Plenary Lecture, From High-resolution EEG to Electrophysiological Neuroimaging, 15th International Congress on Brain Electromagnetic Topography, Tokyo, April 2004.
- 2002 Plenary Lecture, Electrophysiological Neuroimaging. The 4th International Conference on Bioelectromagnetism, Montreal, July 2002.

Invited Lectures, Seminars and Panels

- 2026 Invited Symposium Lecture, Neuromodulatory effects of transcranial focused ultrasound in humans, as measured by EEG source imaging, Annual Meeting of Society for Neuroscience, DC, November 2026
- 2026 Invited Lecture, Transcranial focused ultrasound neuromodulation of cortico-thalamo-cortical networks, Thalamocortical Interactions Gordon Research Conference, Tuscany, Feb 2026.
- 2025 Invited Symposium Lecture, Annual Meeting of American Society of Hematology, Treat the Pain in My Brain: Understanding Neuromodulation and Technology Enhanced Interventions for Sickle Cell Disease Pain, Orlando, December 2025.
- 2025 Invited Lecture, Webinar on “Advances in Brain Imaging in Sickle Cell Disease: Linking Biomarkers, Pain, and Cognition – An Integrative Approach”, Quantitative EEG and Brain-Computer Interface, September 2025.
- 2025 Johns Hopkins Neurology Grand Rounds, Johns Hopkins Medical School, EEG Source Localization and Imaging of Epileptogenic Brain, September 2025.
- 2025 Invited Symposium Lecture, 19th Annual Sickle Cell Disease Research and Educational Symposium and the 48th National Sickle Cell Disease Scientific Meeting, Focused Ultrasound Neuromodulation for Treating Sickle Cell Pain, Fort Lauderdale, June 2025.
- 2025 Invited Lecture, Pitt Pain Day, Treating Chronic Pain in Sickle Cell Disease Using Transcranial Focused Ultrasound Neuromodulation, Pittsburgh, May 2025.
- 2025 Invited Symposium Lecture, EEG Source Imaging and Brain-Computer Interface, Invited Symposium on “100 Years of EEG”, Annual Meeting of Cognitive Neuroscience, Boston, April 2025.
- 2025 University of Alabama at Birmingham, Human Systems Neuroimaging and Neuroengineering Seminar, Dynamic Brain Mapping and Brain-Computer Interface, April, 2025 (online).
- 2025 Nanyang Technological University, Brain-Computer Interface: Decoding and Modulating the Brain, Singapore, Feb 2025.
- 2024 University of California at Irvine, Brain-Computer Interface: Decoding and Modulating the Brain, Irvine, December 2024.
- 2024 Case Western Reserve University, Cleveland FES Center, Neural Prosthesis Seminar, Interfacing with the Brain: Brain Decoding and Modulation, Cleveland, November 2024.
- 2024 National Academy of Science, Engineering, and Medicine Workshop on Transformative Science and Technology for Accessing and Strengthening Individual-to-Population Resilience under Societal and Environmental Stress, Brain Electrical Neuroimaging and Brain-Computer Interface for Accessing Stress and Enhancing Resilience – a Neuroengineering Perspective, DC, September 2024.
- 2024 University of Illinois at Urbana-Champaign, Bioengineering Distinguished Seminar Series, Dynamic Brain Imaging and Brain-Computer Interface, Urbana, April 2024.
- 2024 National Academies Transformative Science and Technology for the Department of Defense Seminar Series, Noninvasive Brain-Computer Interface, DC, March 2024.
- 2024 Invited Lecture, Curry NeuroTalks Webinar Series, Recent Advances in Epilepsy Source Localization and Imaging, Compumedics Neuroscan, February 2024 (online).
- 2023 Invited Lecture, American Epilepsy Society Annual Meeting, Spatio-temporal Source Imaging of Seizure from High-Density EEG, Orlando, Dec 2023.
- 2023 Invited Lecture, 18th European Congress of Clinical Neurophysiology, Localizing and Imaging Epileptogenic Zone, Marseille, May 2023.
- 2023 Invited Speaker, Future of Interface Workshop, Direct Brain Interfaces, February 2023 (online).
- 2023 Invited Lecture, Fourth Annual NIH HEAL Initiative® Investigator Meeting, Treating Pain in Sickle Cell Disease Using Noninvasive Focused Ultrasound Neuromodulation, Feb 2023.

- 2022 University of Texas at Austin, Department of Biomedical Engineering, Noninvasive Mapping and Interfacing with the Brain, Austin, November 2022.
- 2022 Invited Symposium Lecture, International Congress on Clinical Neurophysiology, Electrophysiological Source Imaging of High-frequency Oscillations and Ictal Oscillations from High Density EEG, Geneva, September 2022.
- 2022 Invited Speaker, SCIENCE Webinar, Exploring New Developments in Neuromodulation: Noninvasive Technologies to Train the Brain, September 2022 (online).
- 2022 Invited Lecture, NHLBI's SCD Annual Meeting, Treating Sickle Cell Pain by means of Transcranial Focused Ultrasound Neuromodulation, Aug 2022 (online).
- 2022 University of Melbourne, ARC Training Center in Cognitive Computing for Medical Technologies, Dynamic Brain Source Imaging and Brain-Computer Interface, July 2022 (online).
- 2022 neoBay Robotics Forum, Science Robotics and Shanghai Jiao Tong University, Dynamic Brain Imaging and Brain-Computer Interface, July 2022 (online).
- 2022 Invited Symposium Lecture, International Congress on Integrative Medicine and Health, Noninvasive Brain-Computer Interface and Mind-Body Awareness Training, Phoenix, May 2022.
- 2022 Invited Lecture, Rice Neuroengineering Conference, Rice University, Brain-Computer Interface and Neuromodulation, Houston, May 2022.
- 2022 Invited Lecture, American Clinical MEG Society Annual Meeting, Source and Connectivity Imaging of Epileptogenic Brain from EEG/MEG, May 2022 (online).
- 2021 BrainMap Seminar Series, Athinoula A. Martinos Center for Biomedical Imaging, Harvard Medical School, Electrophysiological Source Imaging: Recent Advancement and Applications to Brain Mapping and Neural Interfacing, October 2021 (online).
- 2021 Invited Academic Speaker Series, University of Toronto Institute of Biomedical Engineering, Electrophysiological Source Imaging of Brain Dynamics for Mapping Epileptogenic Networks and Brain-Computer Interface, September 2021 (online).
- 2021 Invited Lecture, NHLBI's 2021 Annual Sickle Cell Disease Meeting, Quantifying and Treating SCD Pain Using qEEG and Transcranial Focused Ultrasound Neuromodulation, August 2021 (online).
- 2021 Invited Lecture, University of Florida Bioelectronics for Pain and Addiction Symposium, Non-invasive Neuromodulation of Pain with Focused Ultrasound, August 2021 (online).
- 2021 University of Bath, Department of Electrical and Electronic Engineering, Dynamic Brain Mapping and Brain-Computer Interface, June 2021 (online).
- 2021 University of Pittsburgh Epilepsy Center Grand Rounds, Electrophysiological Source Imaging of Epileptogenic Brain in Focal Epilepsy, May 2021 (online).
- 2021 Texas A & M University, Department of Biomedical Engineering, Brain Mapping and Brain-Computer Interface, April 2021 (online).
- 2021 Biomedical Engineering Distinguished Speaker Series, Stevens Institute of Technology, Dynamic Brain Mapping and Brain-Computer Interface, April 2021 (online).
- 2021 Invited Lecture, NIH BRAIN Initiative Transformative Non-Invasive Imaging Technologies Workshop, Brain-Computer Interface by Means of EEG and EEG Source Imaging, March 2021 (online).
- 2021 Biomedical Engineering Leadership Seminar, University of Florida, Department of Biomedical Engineering, Dynamic Brain Mapping and Brain-Computer Interface, March 2021 (online).
- 2021 University of Alabama at Birmingham, Department of Biomedical Engineering, Dynamic Brain Mapping and Brain-Computer Interface, February 2021 (online).
- 2021 Biomedical Engineering Distinguished Lecturer Series, University of California at Irvine, Noninvasive Human Brain Mapping and Brain-Computer Interface, February 2021 (online).
- 2020 SUNY Stony Brooks, Department of Biomedical Engineering, Noninvasive Human Brain Mapping and Brain-Computer Interface, November 2020 (online).

- 2020 WACBE Distinguished Biomedical Engineering Webinar, Noninvasive Human Brain Mapping and Brain-Computer Interface, November 2020 (online).
- 2020 Invited Speaker, 7th International Symposium on Focused Ultrasound, Electrophysiological Source Imaging Guided Transcranial Focused Ultrasound Neuromodulation, November 2020 (online).
- 2020 Tulane University, Department of Biomedical Engineering, Noninvasive Human Brain Mapping and Brain-Computer Interface, November 2020 (online).
- 2020 NanoBio Seminar Series, MIT, Noninvasive Human Brain Mapping and Brain-Computer Interface, October 2020 (online).
- 2020 Phillips Healthcare, EEG-based Dynamic Brain Mapping and Brain-Computer Interface, June 2020 (online).
- 2020 iCANX Talks Webinar, EEG-based Dynamic Brain Imaging and Brain-Computer Interface, May 2020 (online).
- 2020 Biomedical Engineering Distinguished Speaker Series, University of California at Davis, Noninvasive Human Brain Mapping and Brain-Computer Interface, April 2020 (online).
- 2020 University of Pittsburgh, Pittsburgh Institute for Neurodegenerative Diseases, Mapping, Interfacing, and Modulating the Brain, Pittsburgh, February 2020.
- 2019 University of Texas at Arlington, Department of Biomedical Engineering, Noninvasive Human Brain Mapping and Brain-Computer Interface, Arlington, November 2019.
- 2019 Columbia University, Department of Biomedical Engineering, Noninvasive Human Brain Mapping and Brain-Computer Interface, New York, November 2019.
- 2019 Department of Bioengineering Distinguished Guest Seminar, University of Louisville, Noninvasive Human Brain Mapping and Brain-Computer Interface, Louisville, October 2019.
- 2019 Capital Medical University, Xuanwu Hospital, Department of Neurology, Dynamic Brain Mapping and Interfacing with the Brain, Beijing, June 2019.
- 2019 Tsinghua University, Department of Biomedical Engineering, Dynamic Brain Mapping and Interfacing with the Brain, Beijing, June 2019.
- 2019 Peking University, Department of Biomedical Engineering, Dynamic Brain Mapping and Interfacing with the Brain, Beijing, June 2019.
- 2019 Nanjing University, Department of Biomedical Engineering, Dynamic Brain Mapping and Interfacing with the Brain, Nanjing, June 2019.
- 2019 Shanghai Jiao Tong University, School of Mechanical Engineering, Dynamic Brain Mapping and Interfacing with the Brain, Shanghai, May 2019.
- 2019 Fudan University, Department of Electronic Engineering, Dynamic Brain Mapping and Interfacing with the Brain, Shanghai, May 2019.
- 2019 POSTECH, Department of Creative IT Engineering, Dynamic Mapping and Interfacing with the Brain, Korea, May 2019.
- 2019 Penn State University, Department of Biomedical Engineering, Dynamic Mapping and Interfacing with the Brain, State College, April 2019.
- 2019 University of California at Riverside, Department of Bioengineering, Dynamic Mapping and Interfacing with the Brain, Riverside, February 2019.
- 2018 UCLA, Department of Bioengineering, Dynamic Mapping and Interfacing with the Brain, LA, November 2018.
- 2018 Invited Lecture, Gordon Research Conference on Advanced Health Informatics, Functional Dynamic Brain Imaging: Why, What and How, Hong Kong, June 2018.
- 2018 Hong Kong Science and Technology University, Department of Electronic and Computer Engineering, Dynamic Mapping and Interfacing with the Brain, Hong Kong, June 2018.
- 2018 Zhejiang University, College of Biomedical Engineering and Instrumentation Science, Neuroengineering and Brain Imaging, Hangzhou, June 2018.
- 2018 Shanghai Jiao Tong University, School of Biomedical Engineering, Brain-Heart Interactions underlying Traditional Tibetan Buddhist Meditation, Shanghai, June 2018.

- 2018 Invited Symposium Lecture, 31st International Congress of Clinical Neurophysiology, Noninvasive Source Imaging of Seizure from High Density Scalp EEG, Washington DC, May 2018.
- 2018 Carnegie Mellon University, Department of Electrical and Computer Engineering, Dynamic Mapping and Interfacing with the Brain, Pittsburgh, March 2018.
- 2017 Invited Lecture, International Workshop on Seizure Prediction, Electrophysiological Source Imaging of Epileptic Brain, Minneapolis, August 2017.
- 2017 Zhejiang University, College of Biomedical Engineering and Instrumentation Science, Dynamic Mapping and Interfacing with the Brain: From EEG to BCI, Hangzhou, June 2017.
- 2017 Invited Symposium Lecture, 8th International IEEE EMBS Neural Engineering Conference, Dynamic Neuroimaging of Brain Activity and Functional Connectivity, Shanghai, May 2017.
- 2017 Shanghai Jiao Tong University, School of Biomedical Engineering, Cardiac Activation Imaging for Guiding Catheter Ablation of Arrhythmia, Shanghai, May 2017.
- 2017 Dean's Distinguished Lecture, University of Southern California, Dynamic Mapping and Interfacing with the Brain: From EEG to BCI, Los Angeles, April 2017.
- 2016 Distinguished Seminar, Institute of Biomaterials and Biomedical Engineering, University of Toronto, Mapping and Interfacing with the Brain, Toronto, December 2016.
- 2016 Johns Hopkins University, Department of Biomedical Engineering, Challenges in Neuroengineering Research – Dynamic Brain Mapping and Brain-Computer Interface, Baltimore, November 2016.
- 2016 EPFL, Biotech Campus, Dynamic Mapping and Interfacing with the Human Brain, Geneva, June 2016.
- 2016 Invited Symposium Lecture, Annual Meeting of the Organization for Human Brain Mapping, Mapping Brain Electrophysiological Connectome, Geneva, June 2016.
- 2015 Invited Lecture, 2nd BRAIN Initiative Investigators Meeting, Imaging and Modulating the Human Brain, Bethesda, December 2015.
- 2015 Columbia University, Department of Biomedical Engineering, Mapping and Interfacing with the Human Brain, New York, October 2015.
- 2015 Invited Lecture, International Workshop on Seizure Prediction, Dynamic Seizure Imaging and Localization from EEG and High Frequency Activity, Melbourne, August 2015.
- 2015 National Jiao Tong University, Mapping and Interfacing with the Human Brain, Taiwan, July 2015.
- 2015 Brain and Spine Institute, Mapping and Decoding Brain Dynamics, Paris, France, April 2015.
- 2015 Invited Symposium Lecture, 7th IEEE EMBS International Conference on Neural Engineering, Noninvasive Brain-Computer Interface: Challenges and Opportunities, Montpellier, April 2015.
- 2014 Mayo Clinic, Department of Bioengineering and Physiology, Dynamic Mapping and Interfacing with the Brain, Rochester, September 2014.
- 2014 Shanghai Jiao Tong University, School of Biomedical Engineering, Functional Neuroimaging and Interfacing with the Human Brain, Shanghai, July 2014.
- 2014 Humboldt-University, Bernstein Center for Computational Neuroscience Berlin, Multimodal Functional Neuroimaging of Brain Activity, Berlin, June 2014.
- 2014 Southeast University, School of Biomedical Engineering, Functional Mapping and Interfacing with the Brain, Nanjing, May 2014.
- 2014 Tsinghua University, Department of Biomedical Engineering, Mapping and Interfacing with the Brain, April 2014.
- 2014 Distinguished Faculty Luncheon Series, University of Minnesota, Office of the Provost, Mapping and Interacting with the Brain, Minneapolis, April 2014.
- 2013 University of Michigan, Department of Physical Medicine and Rehabilitation, Non-invasive Sensorimotor System Brain-Computer Interfaces, Ann Arbor, December 2013.

- 2013 Rehabilitation Robotics Seminar, University of Michigan, Controlling a flying robot by mind, Ann Arbor, December 2013.
- 2013 Cornell University, Department of Electrical and Computer Engineering, Functional Mapping and Interfacing with the Brain: Challenges and Opportunities, Ithaca, November 2013.
- 2013 Distinguished Lecture, Department of Electrical and Computer Engineering, Texas A & M University, Spatio-temporal Functional Neuroimaging: Challenges and Opportunities, College Station, October 2013.
- 2013 UCLA, Institute for Pure and Applied Mathematics, Functional Neuroimaging of Brain Activity, LA, March 2013.
- 2012 Invited Symposium Lecture, EEG Source and Connectivity Imaging of Epilepsy, American Clinical Neurophysiology Society Annual Meeting, San Antonio, February 2012.
- 2012 University of Minnesota, Institute for Engineering in Medicine Seminar, Spatio-temporal Functional Neuroimaging: Challenges and Opportunities, Minneapolis, February 2012.
- 2011 Zhejiang University, School of Biomedical Engineering, Imaging and Engineering the Brain – a Grand Challenge in Biomedical Engineering, Hangzhou, October 2011.
- 2011 University of Florida, Department of Biomedical Engineering, Spatio-temporal Functional Imaging of Brain Activity, Gainesville, June 2011.
- 2011 Invited Workshop Lecture, 17th Annual Meeting of Organization on Human Brain Mapping, Dynamic Integration of EEG with fMRI in Event Related Paradigms and Resting States, Quebec City, June 2011.
- 2011 Invited Lecture, Biologically-driven Navigation (BioNav) Workshop, EEG-based Navigational Control of Virtual Helicopter in 3-D Space, DARPA, Arlington, May 2011.
- 2011 Rice University, Joint Center for Neuroengineering, Imaging and Interfacing with the Human Brain, Houston, March 2011.
- 2011 University of Illinois at Chicago, Department of Bioengineering, Imaging and Interfacing with the Human Brain, Chicago, March 2011.
- 2011 Case Western Reserve University, Epilepsy Grand Rounds, University Hospital Case Medical Center, Functional Source Imaging of Focal Epilepsy, Cleveland, February 2011.
- 2010 Lecture Series in Complex Systems and Intelligence Science, Chinese Academy of Sciences, Imaging and Interfacing with the Human Brain, Beijing, December 2010.
- 2010 Carnegie Mellon University, Department of Electrical and Computer Engineering, Spatio-temporal Functional Neuroimaging of Brain Activity, Pittsburgh, September 2010.
- 2010 Politecnico di Milano, Functional Neuroimaging of Brain Activity, Milan, June 2010.
- 2010 University of Glasgow, Functional Neuroimaging of Brain Activity, Glasgow, June 2010.
- 2010 Technical University of Lisbon, Neuroengineering, Lisbon, June 2010.
- 2010 Peking University, Department of Biomedical Engineering, Spatio-temporal Functional Neuroimaging of Brain Activity, Beijing, April 2010.
- 2010 Distinguished Speaker Seminar Series, School of Biomedical Engineering, BEIHANG University, Spatio-temporal Imaging of Brain Activity, Beijing, April 2010.
- 2010 University of Florida, Department of Biomedical Engineering, Spatio-temporal Imaging of Brain Functions and Dysfunctions, Gainesville, April 2010.
- 2010 Neuroengineering Seminar, University of Alabama at Birmingham, Spatio-temporal Functional Imaging of Brain Activity, Birmingham February 2010.
- 2010 Cardiac Electrophysiology Seminar, University of Alabama at Birmingham, Noninvasive Cardiac Tomographic Electric Imaging, Birmingham, February 2010.
- 2009 Mayo Clinic, Department of Bioengineering and Physiology, Spatio-temporal Functional Neuroimaging of Brain Activity, Rochester, December 2009.
- 2009 MIT, Functional Neuroimaging: Opportunities and Challenges, December 2009.

- 2009 Invited Lecture, The Xiangshan Science Conferences 346th Session, Electrophysiological Sensing and Imaging of Cardiac Activity, Beijing, April 2009.
- 2009 Institute of Electrical Engineering, Chinese Academy of Sciences, Multimodal Functional Neuroimaging, Beijing, April 2009.
- 2008 University of Colorado at Boulder, Institute of Cognitive Science, Multimodal Functional Neuroimaging of Brain Activity and Connectivity, Boulder, October 2008.
- 2008 Invited Talk, NIH Blueprint Workshop on Non-invasive Imaging of Brain Structure and Function, Multimodal Functional Neuroimaging Integrating fMRI and EEG, Washington DC, September 2008.
- 2008 Invited Talk, Multimodal Neuroimaging of Brain Activity and Connectivity, Grand Challenges in Neuroscience Workshop, Institute of Medicine of the National Academies, Washington DC, June 2008.
- 2008 Tsinghua University, Department of Biomedical Engineering, Magnetoacoustic Imaging with Magnetic Induction, Beijing, May 2008.
- 2008 Institute of Biomedical Engineering, Chinese Academy of Medical Sciences, Magnetoacoustic Imaging with Magnetic Induction, Tianjin, May 2008.
- 2008 Tianjin University, Neuroengineering: Recent Progress and Applications, Tianjin, May 2008.
- 2007 Invited Symposium Lecture, World Congress on Neuromodulation, Electrophysiological Neuroimaging of Cortical Sources, Acapulco, December 2007.
- 2007 Institute of Biomedical and Health Engineering, Chinese Academy of Sciences, Neuroengineering: From neuroimaging to neuron-interfacing, Shenzhen, October 2007.
- 2007 Peking University, Department of Psychology, Electrophysiological Imaging of Brain Activity, Beijing, October 2007.
- 2007 Georgia Tech, Electrophysiological Imaging of Brain Activity: Principles and Applications, Department of Biomedical Engineering, Atlanta, September 2007.
- 2007 University of Geneva, Department of Neurology, Electrophysiological Neuroimaging, Geneva, August 2007.
- 2007 University of Michigan, Department of Biomedical Engineering, Electrophysiological Neuroimaging of Brain Activity, Ann Arbor, March 2007.
- 2007 Cornell University, Department of Radiology, Electrophysiological Neuroimaging of Brain Activity, New York, March 2007.
- 2007 Illinois Institute of Technology, Department of Biomedical Engineering, Recent Progress in Electrophysiological Neuroimaging, Chicago, February 2007.
- 2006 Institute of Electrical Engineering, Chinese Academy of Science, Bioelectromagnetic Imaging, Beijing, July 2006.
- 2006 Institute of Automation, Chinese Academy of Science, Electrophysiological Functional Neuroimaging, Beijing, July 2006.
- 2006 Shanghai Jiao Tong University, Electrophysiological Neuroimaging of Brain Activity and Functional Connectivity, Shanghai, July 2006.
- 2006 Tongji University, Electrophysiological Imaging of Cardiac and Brain Activity, Shanghai, July 2006.
- 2006 University of Chicago, Source Localization, Activation / Causality Mapping of Epileptiform Activity, Chicago, May 2006.
- 2005 Case Western Reserve University, Department of Biomedical Engineering, Electrophysiological Neuroimaging and Applications to Epilepsy, Cleveland, November 2005.
- 2005 Johns Hopkins University, Department of Biomedical Engineering, Electrophysiological Neuroimaging: Principles and Applications, Baltimore, October 2005.
- 2004 Distinguished Seminar, Department of Electrical and Computer Engineering, Michigan State University, Electrophysiological Neuroimaging, Michigan, November 2004.

- 2004 Zhejiang University, College of Biomedical Engineering, Brain Computer Interface, Hangzhou, April 2004.
- 2004 Shanghai Jiao Tong University, Department of Biomedical Engineering, Electrophysiological Neuroimaging, Shanghai, April 2004.
- 2003 University of Chicago, Electrophysiological Cortical Imaging of Epileptiform Activity in Pediatric Epilepsy Patients, Chicago, July 2003.
- 2003 University of Minnesota, Department of Biomedical Engineering, Electrophysiological Neuroimaging: Principles, Validation and Application to Imaging Epileptiform Activity, Minneapolis, April 2003.
- 2003 Texas A&M University, Department of Biomedical Engineering, Spatio-temporal Cardiac Source Imaging, College Station, February 2003.
- 2002 Harvard Medical School, MGH/MIT/HMS A.A. Martinos Center for Biomedical Imaging, Electrophysiological Neuroimaging by Solving the EEG Inverse Problem, Boston, November 2002.
- 2002 University of Chicago, Department of Neurology, Electrophysiological Neuroimaging and Applications to Localization of Epileptogenic Foci, Chicago, April 2002.
- 2002 Chinese Academy of Science, Beijing Laboratory of Cognitive Science, Electrophysiological neuroimaging: Principles and applications, Beijing, April 2002.
- 2002 Tsinghua University, Department of Electrical Engineering, EEG Cortical Imaging, Beijing, April 2002.
- 2001 Northwestern University, Department of Biomedical Engineering, High-resolution Bioelectrical Source Imaging, Evanston, May 2001.
- 2000 Rehabilitation Institute of Chicago, Brain Electric Source Imaging, Chicago, September 2000.
- 2000 University of Chicago, Department of Radiology, Bioelectrical Source Imaging, Chicago, March 2000.
- 2000 University of Illinois at Urbana-Champaign, Beckman Institute, Recent Progress in Brain Electric Source Imaging, Urbana, March 2000.
- 1998 Brain Research Seminar, Tokyo Institute of Technology, Cortical Electrical Imaging from Scalp EEGs, Tokyo, 1998.
- 1996 Northwestern University, Cardiac Electrical Imaging, Evanston, 1996.
- 1995 Tokyo Institute of Technology, Department of Applied Electronics, Bioelectrical Imaging, Yokohama, 1995.
- 1995 University of Tokyo, Institute of Medical Electronics, Body Surface Equivalent Charge Mapping, Tokyo, 1995.
- 1994 Harvard Medical School, Eaton-Peabody Laboratory of Auditory Physiology, EEG Dipole Tracing, Boston, 1994.
- 1994 Worcester Polytechnic Institute, Biomedical Engineering Department, Body surface Laplacian ECG imaging, Worcester, 1994.
- 1994 University of Connecticut, Department of Electrical and Systems Engineering, Body surface Laplacian imaging of cardiac electrical activity, Connecticut, 1994.

Selected Professional Society Activities

- 2023-present Member, Administrative Committee
IEEE Engineering in Medicine and Biology Society (EMBS)
- 2023-present Member, Publications Committee, IEEE EMBS
- 2023-2024 Member, Nomination Committee, American Institute for Medical and Biological Engineering (AIMBE)
- 2022-2024 Member, Fellows Committee, Biomedical Engineering Society (BMES)
- 2021-2024 Past Chair, International Academy of Medical and Biological Engineering (IAMBE)
- 2021-2024 Chair, Nominating Committee, IAMBE

2021-2024 AIMBE Delegate to IFMBE
 2012-2024 Member, Governing Council, IAMBE
 2018-2021 Chair, International Academy of Medical and Biological Engineering
 2015-2018 Chair-elect, International Academy of Medical and Biological Engineering
 2015-2016 Member, IEEE PSPB Strategic Planning Committee
 2013-2018 Member, Administrative Committee, IEEE EMBS
 2013-2014 Member, IEEE Fellow Evaluation Committee
 2012-2018 Chair, Membership Committee, IAMBE
 2012-2013 Chair, Steering Committee on Neural Engineering Conference, IEEE-EMBS
 2012 Chair, IEEE-EMBS Technical Committee on Biomedical Imaging
 2011-2014 Chair, Publications Committee, AIMBE
 2011-2013 Co-Chair, IEEE Life Sciences Initiative
 2011-2012 Chair, Nominating Committee, IEEE-EMBS
 2011 Chair, Technical Activities Committee, IEEE-EMBS
 2011 Chair, Strategic Planning Committee, IEEE-EMBS
 2011 Chair, Constitutions and Bylaws Committee, IEEE-EMBS
 2011 Member, IEEE Fellow Evaluation Committee
 2009-2010 President, IEEE Engineering in Medicine and Biology Society
 2009-2010 Member, IEEE Technical Activity Board
 2009-2015 Chair, Fellow Committee, International Society for Functional Source Imaging
 2008 Chair, Technical Activities Committee, IEEE-EMBS
 2008 Chair, Strategic Planning Committee, IEEE-EMBS
 2008 Chair, Constitutions and Bylaws Committee, IEEE-EMBS
 2007 Vice President for Publications, IEEE-EMBS
 2007-2008 President, International Society for Functional Source Imaging
 2007-2019 Member, Board of Directors, Int. Society for Functional Source Imaging
 2005-2006 Vice President for Publications and Technical Activities, IEEE-EMBS
 2005-2011 Member, Executive Committee, IEEE-EMBS
 2005-2007 Chair, Publications Committee, IEEE-EMBS
 2004 Chair, IEEE-EMBS Ad Hoc Publications Strategic Planning Committee
 2004 Chair, IEEE-EMBS Education Committee
 2002-2011 Member, Administrative Committee, IEEE-EMBS
 2002-2004 Chair, IEEE-EMBS Regional Conference Committee
 2002-2005 President, International Society of Bioelectromagnetism
 2000-2002 Vice President, International Society of Bioelectromagnetism
 2002-2013 Council Member, International Society of Bioelectromagnetism

Editorships / Editorial Board Memberships

2023-present Editor-in-Chief, IEEE Reviews in Biomedical Engineering
 2023-present Editorial Board Member, Scientific Data
 2022-present Advisory Board Member, Med-X
 2020-present Editorial Board Member, Biomedical Engineering Advances
 2019-present Associate Editor, Frontiers in Human Neuroscience
 2019-present Scientific Advisory Board Member, IEEE Transactions on Biomedical Engineering
 2016-present Editorial Board Member, Current Opinion in Biomedical Engineering
 2010-present Section Editor, Brain Topography
 2013-2022 Editorial Board Member, Technology
 2020-2021 Co-Guest Editor, Special Issue on Functional Brain Imaging
 Current Opinion in Biomedical Engineering

2020 Editor, Neural Engineering, 3rd Edition, Springer
 2013-2018 Editor-in-Chief, IEEE Transactions on Biomedical Engineering
 2012-2016 Senior Editor, IEEE Transactions on Neural Systems & Rehabilitation Engineering
 2015 Guest Editor-in-Chief, Engineering (Special Issue - Medical Instrumentation)
 2014-2018 Academic Editor, PLoS ONE
 2010-2016 Editorial Board Member, IEEE Reviews in Biomedical Engineering
 2009-2015 Editorial Advisory Board Member, IEEE Spectrum
 2013-2015 Founding Editorial Board Member, IEEE Access
 2013-2014 Reviewing Editor, Computerized Medical Imaging and Graphics
 2004-2013 Founding Editorial Board Member, Journal of Neural Engineering
 2012-2013 Guest Editor, IEEE Transactions on Biomedical Engineering
 Special Issue: Grand Challenges in Engineering Life Sciences and Medicine
 2002-2012 Associate Editor, IEEE Transactions on Biomedical Engineering
 2006-2012 Associate Editor, IEEE Transactions on Neural Systems & Rehabilitation Engineering
 2013 Editor, Neural Engineering, 2nd Edition, Springer
 2008-2010 Associate Editor, Brain Topography
 2004-2011 Editorial Board Member, Clinical Neurophysiology
 2010 Co-Editor, Cardiac Electrophysiology Methods and Models, Springer
 2004-2007 Associate Editor, IEEE Transactions on Information Technology in Biomedicine
 2007-2008 Guest Editor, IEEE Transactions on Medical Imaging
 Special Issue: Functional Imaging of the Heart
 2007-2008 Guest Editor, IEEE Engineering in Medicine and Biology Magazine
 Special Issue: Biomedical Engineering in China
 2007-2008 Guest Editor, International Journal of Bioelectromagnetism
 Special Issue: Bioelectromagnetic Modeling
 Special Issue: Bioelectromagnetic Source Imaging
 2005-2006 Guest Editor, IEEE Transactions on Biomedical Engineering
 Special Issue: Functional Source Imaging
 2004-2005 Guest Editor, IEEE Transactions on Neural Systems & Rehabilitation Engineering
 Special Issue: Neural Engineering
 2005 Guest Editor, International Journal of Bioelectromagnetism
 Special Issue: Bioelectromagnetism
 Special Issue: Functional Source Imaging
 2005 Editor, Neural Engineering, Kluwer Academic-Plenum Publishers
 2004 Editor, Modeling and Imaging of Bioelectrical Activity – Principles & Applications
 Kluwer Academic-Plenum Publishers
 2004 Editorial Board Member, Neurological Research
 2001 Ad Hoc Associate Editor, Medical Physics
 1999-2003 Guest Editor, Critical Review in Biomedical Engineering
 Special Issue: Neural Engineering
 2000-2001 Guest Editor, IEEE Transactions on Information Technology in Biomedicine
 Special Issue: Biosignal Interpretation
 2000-2001 Guest Editor, Electromagnetics
 Special Issue: Forward and Inverse Problems in Biomedicine
 1999-2000 Guest Editor, Methods of Information in Medicine
 Special Issue: Biosignal Interpretation
 1997-1998 Guest Editor, IEEE Engineering in Medicine and Biology Magazine
 Special Issue: Bioelectricity of Living Tissue

1997 Guest Co-Editor, Bioelectrochemistry and Bioenergetics
Special Issue: Electromagnetics in Biomedicine

Selected Conference Activities

2023 General Chair, 16th Brain Informatics Conference, New York
 2022 Member, International Scientific Committee,
World Congress on Medical Physics and Biomedical Engineering, Singapore
 2021 Member, Scientific Committee
5th International Conference on Basic and Clinical Multimodal Imaging
 2021 Member, Scientific Advisory Board
20th World Congress of Psychophysiology
 2020 Chair
3rd Carnegie Mellon Forum on Biomedical Engineering
 2020 Co-Chair, International Program Committee
IEEE EMBS Annual International Conference
 2019 Chair
2nd Carnegie Mellon Forum on Biomedical Engineering, Pittsburgh
 2019 Member, International Program Committee
IEEE EMBS Annual International Conference, Berlin
 2019 Member, Program Committee
4th International Conference on Basic and Clinical Multimodal Imaging, Chengdu
 2018 Chair
1st Carnegie Mellon Forum on Biomedical Engineering, Pittsburgh
 2018 Member, International Program Committee
IEEE EMBS Annual International Conference, Hawaii
 2017 Chair, 5th Annual Minnesota Neuromodulation Symposium, Minneapolis
 2017 Member, Organizing Committee
IEEE EMBS 8th International Conference on Neural Engineering, Shanghai
 2017 Member, International Advisory Board
IEEE EMBS Annual International Conference, Jeju Island
 2017 Member, Scientific Committee
European Medical and Biological Engineering Conference, Tampere
 2016 Chair, 4th Annual Minnesota Neuromodulation Symposium, Minneapolis
 2016 Member, International Committee
IEEE EMBS Annual International Conference, Orlando
 2016 Member, International Program Committee
IEEE EMBS Int. Conference on Biomedical and Health Informatics, Las Vegas
 2015 Member, International Scientific Committee
IEEE EMBS Annual International Conference, Milan
 2015 Co-Chair, Steering Committee
IEEE EMBS Summer School in Neuroengineering, Shanghai
 2015 Chair, 3rd Annual Minnesota Neuromodulation Symposium, Minneapolis
 2015 Member, Organizing Committee
IEEE EMBS 7th International Conference on Neural Engineering, Montpellier
 2015 Member, International Program Committee
IEEE Biomedical Circuits and Systems Conference, Atlanta
 2014 Chair, IEEE EMBS BRAIN Grand Challenges Conference, Washington DC
 2014 Co-Chair, IEEE International Symposium on Biomedical Imaging, Beijing
 2014 Chair, 2nd Annual Minnesota Neuromodulation Symposium, Minneapolis

- 2014 Member, International Program Committee
International Conference on Biomedical and Health Informatics, Spain
- 2014 Member, International Program Committee
6th European Conference of International Federation for Medical and Biological Engineering, Croatia
- 2013 Chair, IEEE EMBS 6th International Conference on Neural Engineering, San Diego
- 2013 Chair, NSF Workshop on Mapping and Engineering the Brain, Arlington
- 2013 Chair, 1st Minnesota Neuromodulation Symposium, Minneapolis
- 2013 Member, Steering Committee, IEEE Life Sciences Grand Challenges Conf, Singapore
- 2013 Member, International Advisory Committee
International Conference on Biomedical Engineering, Singapore
- 2013 Member, International Program Committee
Annual International Conference of IEEE EMBS, Osaka
- 2013 Member, Scientific Committee
International Conference on Basic and Clinical Multimodal Imaging, Geneva
- 2013 Member, Steering Committee, Fifth International Brain-Computer Interface Meeting
- 2012 Chair, IEEE Life Sciences Grand Challenges Conference, Washington DC
- 2012 Co-Chair, Scientific Committee
World Congress on Medical Physics and Biomedical Engineering, Beijing
- 2012 Member, Organizing Committee
IEEE EMB/CAS/SMC Workshop on Brain-Machine-Body Interfaces
- 2012 Member, International Program Committee
Annual International Conference of IEEE EMBS, San Diego
- 2012 Member, Organizing Committee
IEEE-EMBS Forum on Grand Challenges in Biomedical Imaging, Bethesda
- 2011 Chair, Symposium on Biomedical Engineering Education
Annual International Conference of IEEE EMBS, Boston
- 2011 Member, Organizational Advisory Committee
Annual International Conference of IEEE EMBS, Boston
- 2011 Co-Chair, International Biomedical Engineering Department Chairs Forum, Boston
- 2011 Co-Chair, Yangtze River Int. Conference on the Applications of Medical Imaging Physics & The 6th National Annual Meeting of Medical Imaging Physics, Hangzhou
- 2011 Member, International Advisory Committee, the 8th Int. Symposium on Noninvasive Functional Source Imaging & 8th Int. Conference on Bioelectromagnetism, Banff
- 2010 Chair, Steering Committee
IEEE-EMBS Forum on Grand Challenges in Neuroengineering, Bethesda
- 2010 Member, Program Committee
The Fourth International Brain-Computer Interface Meeting, Pacific Grove
- 2009 General Chair
Annual International Conference of IEEE EMBS, Minneapolis
- 2009 Member, Advisory Board
World Congress on Medical Physics and Biomedical Engineering, Germany
- 2009 Member, Advisory Council, Healthcare Reform – or Transformation?
A Scientific Community – Interoperability Summit, Washington DC
- 2009 Member, International Advisory Committee
7th International Symposium on Noninvasive Functional Source Imaging & 7th International Conference on Bioelectromagnetism, Rome
- 2009 Member, Program Committee
International Workshop on Biosignal Interpretation, New Haven
- 2009 Member, Technical Committee

- IEEE Workshop on Statistical Signal Processing, Cardiff
- 2008 Co-Chair, International Committee
- Int. Conference on Information Technology & Applications in Biomedicine, Shenzhen
- 2008 Theme Co-Chair, Biomedical Imaging and Image Processing Theme
- IEEE-EMBS Annual International Conference, Vancouver
- 2007 Co-Chair, Joint Meeting of the 6th International Symposium on Noninvasive
- International Conference on Functional Biomedical Imaging, Hangzhou
- 2007 Theme Co-Chair, Biomedical Imaging and Image Processing Theme,
- IEEE-EMBS Annual International Conference, Lyon
- 2006 Theme Chair, Biomedical Imaging and Image Processing Theme
- IEEE-EMBS Annual International Conference, New York
- 2006 Bioelectricity and Biomagnetism Track Chair
- World Congress on Medical Physics and Biomedical Engineering, Korea
- 2006 Neural Engineering Track Chair
- Annual Conference of Biomedical Engineering Society, Chicago
- 2006 Chair, Symposium on Frontiers in Neural Engineering
- Annual Conference of Biomedical Engineering Society, Chicago
- 2005 Chair, Joint Meeting of the Fifth International Conference on Bioelectromagnetism
- and the Fifth International Symposium on Noninvasive Functional Source Imaging
- within the Human Brain and Heart, Minneapolis
- 2005 Member, International Advisory Committee
- 2nd IEEE-EMBS International Conference on Neural Engineering, DC
- 2005 Theme Chair, Medical Imaging and Image Processing Theme
- IEEE-EMBS Annual International Conference, Shanghai
- 2005 Member, Program Committee
- The 5th International Workshop on Biosignal Interpretation, Tokyo
- 2004 Theme Chair, Neural & Rehabilitation Engineering Theme,
- IEEE-EMBS Annual International Conference, San Francisco
- 2003 Member, Program Committee
- The 1st IEEE-EMBS International Conference on Neural Engineering, Capri
- 2003 Member, Scientific Committee, XXX Int. Conf. on Electrocardiology, Helsinki
- 2003 Theme Chair, Signal and Image Modeling and Processing Theme,
- IEEE-EMBS Asian-Pacific Conference on Biomedical Engineering, Kyoto
- 2002 Member, Program Committee
- The 4th International Workshop on Biosignal Interpretation, Italy
- 2001 Member, Scientific Board, The 3rd International Symposium on Noninvasive
- Functional Source Imaging within the Human Brain and Heart, Innsbruck
- 2000 Program Chair
- IEEE-EMBS Asia-Pacific Conference on Biomedical Engineering, Hangzhou
- 2000 Chair, IEEE-EMBS Workshop on Modeling/Imaging of Bioelectrical Activity, Chicago
- 1999 General Chair, The 3rd International Workshop on Biosignal Interpretation, Chicago
- 1999 World Topic Animator on Modeling and Simulation, European Medical and Biological
- Engineering Conference, Vienna
- 1998 Theme Co-Chair, Brain and Neural Engineering Theme,
- Annual International Conf. of IEEE-EMBS, Hong Kong
- 1997 Member, Conference Committee, Annual Int. Conf. of IEEE-EMBS, Chicago
- 1997 Member, Program Committee
- URSI-IEEE International Scientific Meeting on Electromagnetics in Medicine
- 1997 Local Arrangements Chair
- URSI-IEEE International Scientific Meeting on Electromagnetics in Medicine

1996 Member, Organizing Committee
The 2nd IFMBE-IMIA International Workshop on Biosignal Interpretation

Advisory Council / Study Section / Review Panel / Reviewer for Funding Agencies

National Institutes of Health

- BRAIN Multi-Council Working Group
- National Advisory Council for Complementary and Integrative Health
- Modulation and Imaging of Neural Circuits Study Section
- Neuroscience and Ophthalmic Imaging Technologies Study Section
- Ad Hoc Member of multiple Study Sections

National Science Foundation

Medical Research Council of Canada

Natural Sciences and Engineering Research Council of Canada

Canadian Institutes of Health Research

Medical Research Council, U.K.

Wellcome Trust, U.K.

European Science Foundation

Austrian Science Fund

Alzheimer's Association

American Heart Association

U.S. Civilian Research and Development Foundation

United Engineering Foundation

Danish Agency for Science, Technology and Innovation

Israel Science Foundation

Minister of Education, China

Netherlands Organization for Scientific Research

Portuguese Science and Technology Foundation

Royal Society of New Zealand

Swiss National Science Foundation

Czech Science Foundation

Research Foundation Flanders

Awards and Recognitions of Students and Postdoctoral Advisees

2026	Travel Grant, International Neuromodulation Society's 17th World Congress (Annabel Frake)
2025	Center for Machine Learning in Health Graduate Fellowship, Carnegie Mellon University (Yidan Ding)
2025	Liang Ji-Dian Graduate Fellowship, Carnegie Mellon University (Yidan Ding)
2023-26	NSF Graduate Research Fellowship (Joshua Kosnoff)
2024-26	NIH Neural Interfacing Traineeship (Maxim Karrenbach)
2023-25	NIH Neural Interfacing Traineeship (Annabel Frake)
2023	NSF Graduate Research Fellowship, Honorable Mention (Colton Gonsisko)
2023	NIH Neural Interfacing Traineeship (Jesse Rong)
2022	Dowd's Fellowship, Carnegie Mellon University (Sandhya Ramachandran)
2022	David Cohen Distinguished Postdoctoral Fellowship Athinoula A. Martinos Center for Biomedical Imaging, Harvard Medical School (Abbas Sohrabpour)
2022-23	NIH T32 Neural Interfacing Traineeship (Joshua Kosnoff)

2022-23	NIH T32 Neural Interfacing Traineeship (Colton Gonsisko)
2021	2021 CMLH Fellowship in Digital Health (Rui Sun)
2021	Neuroscience Outstanding Postdoctoral Research Award – Strick Prize, Carnegie Mellon University (Abbas Sohrabpour)
2021	Doctoral Presidential Fellowship, College of Engineering, Carnegie Mellon University (Daniel Suma)
2020-22	NIH/NINDS F31 Individual Predoctoral Fellowship (Daniel Suma)
2020	Biomedical Engineering Outstanding Postdoctoral Research Award, Carnegie Mellon University (Abbas Sohrabpour)
2019	Doctoral Presidential Fellowship, College of Engineering, Carnegie Mellon University (Zhengxiang Cai)
2019	Doctoral Presidential Fellowship, Neuroscience Institute, Carnegie Mellon University (Xiaodan Niu)
2019	2 nd Place, Three Minutes Thesis Competition, Carnegie Mellon University (Xiaodan Niu)
2019	People’s Choice Award, Three Minutes Thesis Competition, Carnegie Mellon University (Xiaodan Niu)
2018	Bradford and Diane Smith Graduate Fellowship, Carnegie Mellon University (Daniel Suma)
2018	Liang Ji-Dian Graduate Fellowship, Carnegie Mellon University (Xiaodan Niu)
2016	EMBS Early Career Achievement Award (Lei Ding – Former PhD advisee)
2016	Finalist of Student Paper Competition IEEE EMBS Annual International Conference (Abbas Sohrabpour, Long Yu)
2016-2017	Doctoral Dissertation Fellowship, University of Minnesota (UMN) (Kai Yu)
2016-2018	NIH/NINDS F31 Individual Predoctoral Fellowship (Brad Edelman)
2016-2017	Doctoral Interdisciplinary Fellowship, UMN (Abbas Sohrabpour)
2016	3 rd Place, Best Poster Award, 4 th MN Neuromodulation Symposium (Bryan Baxter)
2015	Finalist of Student Paper Competition IEEE EMBS Annual International Conference (Chris Cline)
2015	Best Poster Award, 1 st Place in Medical Imaging Theme IEM Annual Conference and Retreat, UMN (Kai Yu)
2015	Best Poster Award, 2 nd Place in Medical Imaging Theme IEM Annual Conference and Retreat, UMN (Yicun Wang)
2015	MnDrive Neuromodulation Graduate Fellowship, UMN (Kai Yu)
2015	UMN MnDrive Neuromodulation Graduate Fellowship (Bryan Baxter)
2014	NIH Biobehavioral Research Awards for Innovative New Scientists (Zhongming Liu – Former PhD advisee)
2014	NSF IGERT Neuroengineering Fellowship (James Stieger)
2014	Young Investigator Award IEEE EMBS BRAIN Grand Challenges Conference (Brad Edelman)
2014	Best Poster Award, 2 nd Place in Medical Devices Theme IEM Annual Conference and Retreat, UMN (Albert You)
2014	2 nd Place, IEEE EMBS Student Paper Competition Award Annual International Conference of IEEE EMBS (Jianen Liu)
2014	2 nd Place, BRAIN Young Investigator Award competition Annual International Conference of IEEE EMBS (Jianen Liu)
2014-2015	Doctoral Dissertation Fellowship, Graduate School, UMN (Huishi Zhang)
2014	Whitaker International Program Summer Grant (Brad Edelman)
2014	NSF IGERT Neuroengineering Fellowship (Chris Cline)
2014	2 nd Place, Student Paper Competition Award

2nd Annual Minnesota Neuromodulation Symposium (Jeet Roy)

2014 ISMRM Merit Award Magna Cum Laude
International Society for Magnetic Resonance in Medicine (Xiaotong Zhang)

2014 Scholar Award from P.E.O. International, 2014 (Nessa Johnson)

2014 NSF IGERT Neuroengineering Fellowship (Michelle Case)

2013-2014 UMN College of Science and Engineering Graduate Fellowship (Chris Cline)

2013-2014 Doctoral Dissertation Fellowship, Graduate School, UMN (Yunfeng Lu, Jiaen Liu)

2013-2014 Doctoral Interdisciplinary Fellowship, UMN Graduate School (Nessa Johnson)

2012 Second Place, IEEE EMBS Student Paper Competition (Yunfeng Lu)
Annual Int. Conf. of IEEE Engineering in Medicine & Biology Society

2012 NSF IGERT Neuroengineering Fellowship (Brad Edelman)

2012 NSF IGERT Neuroengineering Fellowship (Bryan Baxter)

2011 ARCS Foundation Fellowship (Nessa Johnson)

2011 Finalist, Student Paper Competition (Chengzong Han)
Annual Int. Conf. of IEEE Engineering in Medicine & Biology Society

2011-2012 UMN Doctoral Interdisciplinary Fellowship (Huishi Zhang)

2011-2012 UMN Doctoral Dissertation Fellowship (Lin Yang)

2010 NSF CAREER Award (Lei Ding – Former PhD advisee)

2010 NIH K99/R00 Award (Yingchun Zhang – Former Postdoc advisee)

2010 UMN Best Doctoral Dissertation Award (Zhongming Liu)

2010-2012 NIH Neuroimaging Fellowship (Nessa Johnson)

2010-2012 NIH Neuroimaging Fellowship (Abhrajee Roy)

2009-2010 Barry M. Goldwater Scholarship (Rebecca Szarkowski)

2009-2010 National Astronaut Foundation Scholarship (Rebecca Szarkowski)

2009-2010 NIH Neuroimaging Fellowship (Keith Jamison)

2009-2010 UMN Doctoral Interdisciplinary Fellowship (Yunfeng Lu)

2009-2010 UMN Doctoral Dissertation Fellowship (Han Yuan)

2009 Travel Fellowship (Xiaotong Zhang)
Annual Int. Conf. of IEEE Engineering in Medicine & Biology Society

2008-2009 NIH Neuro-Computational-Physical Sciences Fellowship (Keith Jamison)

2008-2009 NIH Neuroimaging Fellowship (Christopher Wilke)

2008-2009 NIH Neuroimaging Fellowship (Audrey Royer)

2008-2009 Doctoral Interdisciplinary Fellowship, UMN Graduate School (Lin Yang)

2008-2009 American Heart Association Predoctoral Fellowship (Chengzong Han)

2008 Life Science Alley Conference Poster Award (Christopher Wilke)

2008 Travel Fellowship (Chenguang Liu)
Annual Int. Conf. of IEEE Engineering in Medicine & Biology Society

2007 First Prize of Student Paper Competition
Joint Meeting of 6th Int. Symposium on Noninvasive Functional Source Imaging of the Brain and Heart and Int. Conference on Functional Biomedical imaging (Han Yuan)

2007 Life Science Alley Conference Poster Award (Chengzong Han)

2007-2008 UMN Doctoral Dissertation Fellowship (Chenguang Liu)

2007 Design of Medical Devices Scientific Poster Session Award (Xu Li)

2005-2007 NIH Neuro-Computational-Physical Sciences Fellowship (Xu Li)

2006-2007 NIH Neuro-Computational-Physical Sciences Fellowship (Han Yuan)

2005-2007 American Heart Association Predoctoral Fellowship (Chenguang Liu)

2006-2007 American Heart Association Predoctoral Fellowship (Zhongming Liu)

2006-2007 UMN Supercomputing Institute Research Scholarship (Xiaoxiao Bai)

2005-2006 Korean Research Foundation Postdoctoral Fellowship (Chang-Huwn Im)

2006 China Scholarship Council Scholarship (Lei Ding)

2006	Life Science Alley Conference Poster Award – University of Minnesota Institute of Technology Award (Han Yuan)
2006	Finalist, Student Paper Competition (Zhongming Liu) Annual Int. Conf. of IEEE Engineering in Medicine & Biology Society
2006	2nd place of the Best Poster Award (Chenguang Liu) Design of Medical Device Conference Finalist, Student Paper Competition
2005-2006	UMN Doctoral Dissertation Fellowship (Lei Ding)
2005	Second Prize, Young Investigator Award Competition (Zhongming Liu) Joint Meeting of the 5 th International Conference on Bioelectromagnetism & the 5 th International Symposium on Noninvasive Functional Source Imaging within the Human Brain and Heart
2005	Finalist, Student Paper Competition (Lei Ding) Annual Int. Conf. of IEEE Engineering in Medicine & Biology Society
2005	Medical Alley Conference Poster Guidant Award (Chenguang Liu)
2005	Medical Alley Conference Poster Boston Scientific Award (Yuan Lai)
2004	The Rosanna Degani Young Investigator Award (Xin Zhang) Computers in Cardiology International Conference
2004	China Scholarship Council Scholarship (Xin Zhang)
2004	Medical Alley Conference Poster Award – BMEI Director Award (Yuan Lai)
2004	Appointed to General Chair of the 15th Congress of the Int. Society of Brain Electromagnetic Topography (Masafumi Nakagawa – Former Postdoc)
2001	Finalist, Student Paper Competition (Jie Lian) Annual Int. Conference of IEEE Engineering in Medicine & Biology Society
2001	University of Illinois at Chicago University Fellowship (Lei Ding)
2001	University of Illinois at Chicago University Fellowship (Jie Lian)
2001	University of Illinois at Chicago Int. Student Service Award (Xin Zhang)
2001	Japanese Government Research Fellowship (Masao Sumiya)
2000	Student Paper Competition Award (3rd Prize) (Jie Lian) IEEE-EMBS Asia-Pacific Conference on Biomedical Engineering
1999	Japanese Government Research Fellowship (Junichi Hori)
1999	Japanese Government Research Fellowship (Hiroshi Sasaki)
1998	The Okazaki Award, The Sixth international Symposium on Evoked Potentials (Masafumi Nakagawa)
1997	Young Scientist Paper Prize (2nd Place) (Dongsheng Wu) The URSI-IEEE Int. Scientific Meeting on Electromagnetics in Medicine
1997	Postdoctoral Paper Award (2nd Place) (Ken Umetani) The 15th Southern Conference on Biomedical Engineering

PhD Students Advising (Thesis Advisor)

* Fellowship Awardee; ** Conference Young Investigator/Student Paper Competition Awardee

1. Maxim Karrenbach*, CMU/ECE PhD Student, 8/24-Present
Thesis Topic – Brain-Computer Interface Using Foundation Models
2. Joseph Zhang, CMU/BME PhD Student, 8/24-Present
Thesis Topic - Bidirectional Brain-Computer Interface
3. Ruiming Zhang, CMU/BME PhD Student, 8/24-Present
Thesis Topic – Functional Neuroimaging of Epileptogenic Zone
4. Annabel Frake*, CMU/BME PhD Student, 8/23-Present
Thesis Topic – Focused Ultrasound Neuromodulation Suppressing Epilepsy
5. Joshua Kosnoff*, CMU/BME PhD Student, 8/22-Present

- Thesis Topic – Bidirectional Brain-Computer Interface
6. Colton Gonsisko*, CMU/BME PhD Student, 8/22-Present
Thesis Topic – EEG/MEG Source Imaging of Epileptic Sources
 7. Kelly Yeh, CMU/BME PhD Student, 8/22-Present
Thesis Topic – Focused Ultrasound Neuromodulation
 8. Jesse Rong*, CMU/BME PhD Student, 8/22-Present
Thesis Topic – EEG Source Imaging with Biophysically Inspired Neural Networks
 9. Yidan Ding, CMU/BME PhD Student, 8/22-Present
Thesis Topic – Sensorimotor Rhythm Brain-Computer Interface for Robotic Control
 10. Sandhya Ramachandran*, CMU/BME PhD Student, 8/19-8/25
Thesis Topic – Cell-type Selectivity of Transcranial Focused Ultrasound Neuromodulation
Placement: Postdoc, University of Toronto
 11. Dylan Forenzo*, CMU/BME PhD Student, 8/20-5/25
Thesis Topic – Brain-Computer Interface
Placement: Senior Biomedical Engineer, Analog Devices
 12. Xiyuan Jiang, CMU/BME PhD Student, 8/18-5/25
Thesis – Spatial-Temporal-Spectral Source Imaging for Enhanced Epileptic Brain Mapping
Placement: Postdoc, Zhejiang University
 13. Rui Sun*, PhD Student, 1/18-5/23
Thesis – Deep learning-based Source Imaging Improves Spatiotemporal Imaging of Epileptic Sources
Placement: Data Scientist, Takeda Pharmaceutical
 14. Zhengxiang Cai*, **, PhD Student, 1/18-2/23
Thesis – Imaging the Epileptic Brain via High-frequency Oscillations from Multiscale Electrophysiological Analysis
Placement: Postdoc, Carnegie Mellon University
 15. Shuai Ye, PhD Student, 1/18-5/22
Thesis – Estimating Epileptic Networks with High Density Electroencephalography and Magnetoencephalography
Placement: Software Engineer, Google
 16. Daniel Suma*, **, PhD Student, 1/18-2/22
Thesis – Towards intuitive continuous EEG endogenous neurorobotic arm control
Placement: Engineer, US Navy
 17. Rachel Niu*, **, PhD Student, 1/18-2/22
Thesis – Investigation of Mechanisms of Low Intensity Transcranial Focused Ultrasound Stimulation in the Central Nervous System of in vivo Rodent Models
Placement: Senior Management Consultant, Guidehouse
 18. James Stieger*, PhD Student, 11/14-12/20
Thesis – How to Use Brains and Computers to Enhance Brain Computer Interfacing
Placement: Postdoc, Stanford University
 19. Vishal Vijayakumar, PhD Student, 1/16-5/18
Thesis – Automated Detection and Quantification of Pain Using Electroencephalography
Placement: Engineer, Starkey
 20. Chris Cline*, **, PhD Student, 11/13-Present
Thesis – Noninvasive neuroimaging of responses to transcranial magnetic stimulation
Placement: Postdoc, Stanford Medical School
 21. Michelle Case*, PhD Student, 11/13-5/18
Thesis – Functional Multimodal Imaging of Sickle Cell Disease Patients to Understand how Chronic Pain Affects Neural Dynamics of Patients
Placement: Research Scientist, Medtronic Neuromodulation

22. Yicun Wang**, PhD Student, 11/13-5/18
Thesis – Magnetic Resonance based Electrical Properties Tomography (EPT) Using Multi-channel Transmission for Imaging Human Brain and Animal Cancer Models
Current Position: Assistant Professor, Stony Brook University
23. Ting Yang, PhD Student, 11/13-12/17
Thesis – Noninvasive Cardiac Imaging of Activation Sequence and Activation Recovery Interval, and Localization of Ventricular Arrhythmias
Placement: Research Scientist, Phillips Healthcare
24. Abbas Sohrabpour*,**, PhD Student, 1/13-5/18
Thesis – Noninvasive Electromagnetic Neuroimaging of Epilepsy Networks
Placement: Postdoc, Carnegie Mellon University
25. Brad Edelman*,**, PhD Student, 11/12-2/18
Thesis – A Neuroimaging Approach to Noninvasive Brain-Computer Interface Control
Placement: Postdoc, Stanford University
26. Kai Yu*,**, PhD Student, 11/12-8/18
Thesis Topic – Dual-mode Ultrasound: Magnetoacoustics for Biological Tissue Imaging and Ultrasound Mediated Neuromodulation
Current Position: Assistant Professor, University of Connecticut
27. Bryan Baxter*,**, PhD Student, 11/11-5/17
Thesis – Targeting the Brain in Brain-Computer Interfacing: The Effect of Transcranial Current Stimulation and Control of a Physical Effector on Performance and Electrophysiology Underlying Noninvasive Brain-Computer Interfaces
Placement: Postdoc, Harvard Medical School
28. Abhrajee Roy*,**, PhD Student, 11/10-12/16
Thesis – Delineating the Neural Correlates of Visual Awareness through the Integration of Multimodal Neuroimaging and Noninvasive Electrical Neuromodulation
Placement: Postdoc, University of Minnesota Medical School
29. Long Yu**, PhD Student, 11/10-12/16
Thesis – Three Dimensional Cardiac Electrical Imaging: From Designs to Applications
Placement: Systems Engineer, GE Healthcare
30. Jiaen Liu*,**, PhD Student, 11/09-11/15
Thesis – Imaging Electrical Properties Using MRI and In Vivo Applications
Current Position – Assistant Professor, UT Southwestern Medical Center
31. Huishi Zhang*, PhD Student, 11/09-05/15
Thesis – Multimodal Neuroimaging in Epilepsy and Pain
Placement – Consultant, Accenture
32. Keith Jamison*, PhD Student, 11/08-05/14
Thesis Topic – Cognitive Neuroimaging
Placement – Research Staff, CMRR, University of Minnesota Medical School
33. Yunfeng Lu*,**, PhD Student, 11/08-5/14
Thesis – Noninvasive functional neuroimaging of electrophysiological brain activities in epilepsy patients
Placement – Biomedical Engineer, Medtronic, Inc.
34. Zhaoye Zhou, PhD Student, 11/08-08/14
Thesis – Noninvasive Imaging of Cardiac Electrophysiology in Pathological Hearts
Placement: Research Scientist, Medtronic, Inc.
35. Leo Mariappan, PhD Student, 09/07-05/14
Thesis – Magnetoacoustic Tomography with Magnetic Induction for Electrical Conductivity based Tissue imaging
Placement: Systems Engineer, Acutus Medical

36. Chengzong Han*,**, PhD Student, 09/06-08/12
Thesis – Noninvasive Imaging of Three-dimensional Ventricular Electrical Activity
Placement: Research Scientist, Philips Healthcare
37. Lin Yang*,**, PhD Student, 09/06-07/12
Thesis – Functional neuroimaging of electrophysiological rhythms in pathological and normal brains
Placement: Member of Research Staff, Phillips Research
38. Han Yuan*,**, PhD Student, 08/05-11/10
Thesis – Functional Imaging of Rhythmic Brain Activity during Movement and Motor Imagination
Current Position: Associate Professor, University of Oklahoma
39. Xu Li*,**, PhD Student, 08/04-09/10
Thesis – Magnetoacoustic Tomography with Magnetic Induction for Electrical Conductivity Imaging of Biological Tissue
Current Position: Associate Professor, Johns Hopkins University
40. Chenguang Liu*,**, PhD Candidate, 08/03-12/09
Thesis – Functional Mapping of Three-Dimensional Electrical Activation Sequence in Ventricles
Current Position: Research Scientist, Phillips Healthcare
41. Christopher Wilke*, MD/PhD Student, 08/05-09/09
Thesis – Causal-based Analysis of Epileptogenic Networks
Current Position: Assistant Professor, University of Minnesota Medical School
42. Zhongming Liu*,**, PhD Student, 08/03-09/08
Thesis – Multimodal Neuroimaging integrating fMRI and EEG
Current Position: Associate Professor, University of Michigan
43. Yuan Lai**, PhD, 08/01-05/06
Thesis – Cortical Electrophysiological Imaging of Brain Electrical Activity
Placement: Senior Engineer, Philips Healthcare
44. Lei Ding*,**, PhD, 08/01-01/07
Thesis – Electrophysiological Neuroimaging: New Models & Computational Methods
Current Position: Professor and Institute Director, University of Oklahoma
45. Xin Zhang*,**, PhD Student, 08/99-08/05
Thesis – A Computational and Experimental Study of a Heart-Model-Based Electrocardiographic Imaging Approach
Current Position: VP of Business Development, Peijia Medical Co., Ltd.
46. Jie Lian*,**, PhD Student, 08/97-07/02
Thesis – High Resolution Imaging of Bioelectric Sources
Placement: Senior Biomedical Engineer, Micro Systems Engineering, Inc.
47. Dongsheng Wu**, PhD Student, 01/95-07/98
Thesis – Theoretical Study of Forward and Inverse Laplacian Electrocardiography
Placement: Postdoc, University of Illinois at Chicago

MS Students Advising (Thesis Advisor)

** Fellowship/Scholarship Awardee*

1. Jintao Zhang, MS Student. 9/25-Present
Thesis Topic – Decoding brain intention from functional MRI
2. Zherui Li, MS Student, 8/23-Present
Thesis Topic – Computational Study of Focused Ultrasound Neuromodulation
Placement: BME PhD Program, University of Southern California

3. Qingtang Zeng*, MS Student, 8/23-Present
Thesis Topic – Computational Modeling of Motor Imagery Brain-Computer Interface
Placement: Research Associate, Hong Kong University of Science and Technology
4. Jeehyun Kim, MS Student, 8/21-5/23
Thesis – Immediate effects of short-term meditation on sensorimotor rhythm-based brain-computer interface performance
Placement: BME PhD Program, CMU
5. Yunruo Ni*, MS Student, 9/21-5/23
Thesis – 3D Displacement Simulations for Trans-cranial Focused Ultrasound Applications
Placement: BME PhD Program, Virginia Tech
6. Hao Zhu*, MS Student, 2/21-12/22
Thesis – On the Deep Learning Models for EEG-based Brain-Computer Interface Using Motor Imagery
Placement: BME PhD Program, Lehigh University
7. Hyonyoung Shin, MS Student, 8/20-5/22
Thesis – Closed-loop motor imagery EEG simulation for brain-computer interfaces
Placement: ECE PhD Program, UT Austin
8. Chang Liu, MS Student, 9/18-5/20
Thesis – Electrophysiological Source Imaging Brain Activation at Human Primary Somatosensory Cortex Induced by Transcranial Focused Ultrasound Stimulation
Placement: BME PhD Program, Boston University
9. Chris Coogan*, Graduate Student, 11/16-12/17
Thesis Topic – Brain-Computer Interface
Placement: Software Engineer, Johns Hopkins University
10. Seyed Amir Hosseini*, Graduate Student, 5/16-12/17
Thesis Topic – Epilepsy Source Localization
Placement: ECE PhD Program, University of Minnesota
11. Sina Shirinpour, Graduate Student, 11/15-8/17
Thesis Topic – Neuroimaging of Pain
Placement: BME PhD Program, University of Minnesota
12. Alex Doud*, MD/MS Student, 8/12-6/13
Thesis Topic – Brain Computer Interface Studies in Stroke Patients
Placement: Medical School Resident, University of Washington
13. Eren Gulpte, Graduate Student, 9/09-5/11
Thesis – A linear/nonlinear characterization of resting state brain networks in fMRI time course
Placement: PhD Program, UC Davis
14. Ke-Chun Chou, MS Student, 08/05 – 05/06
Thesis – An Interfacing System for Body surface Potential Mapping
Placement: Engineer, Epic Systems Corporation
15. Baharan Kamousi, MS Student, 06/04-9/05
Thesis – Classification of Motor Imagery Tasks by means of EEG Inverse Solutions for Brain Computer Interface Applications
Current Position: Senior Engineer, St. Jude Medical
16. Ying Ni, MS Student, 05/02-07/04
Thesis Topic – Cortical Imaging of Motor Potentials and Interictal Epileptic Discharges
Current Position: Research Scientist, Case Western Reserve University
17. Jie Deng, MS Student, 08/02-01/04
Thesis Topic – Brain-Computer Interface
Current Position: Associate Professor, Rush University Medical Center
18. Jia Cheng, MS Student, 08/00 – 07/02

- Thesis – Visualization of Electrical Activity of Human Heart and Brain
Placement: Research Associate, University of Chicago Hospital
19. Pathyusha K Salla, MS Student, 08/99 – 12/00
Thesis – Body Surface ECG Mapping during Normal Ventricular Depolarization
Placement: Engineer, GE Medical Systems
20. Sriram Srinivasan, MS Student, 01/98 – 12/99
Thesis – Estimation of Noise Level in Laplacian Electrocardiogram during Ventricular Depolarization
Placement: Research Scientist, Medtronic, Inc.
21. Dongning Wu, MS Student, 08/97 – 01/99
Thesis – Development of an Advanced ECG Mapping Software System
Placement: Engineer, Motorola
22. Ho Chie Tsai, MS Student, 09/96-07/98
Thesis – Imaging Abnormal Cardiac Conduction by Means of Body Surface Laplacian Mapping
Placement: MD Program, University of Illinois at Chicago College of Medicine
23. Greg Krumdick, MS Student, 08/96-05/98
Thesis – Development of a Visual Stimulation System and its Application to Visual Evoked Potentials
Placement: Staff, Argonne National Laboratory
24. Nabil Mehid, MS Student, 08/95-07/97
Thesis – Experimental investigation of body surface Laplacian mapping during ventricular depolarization
Placement: Engineer, Baxter Health Care
25. Yi Li, MS Student, 01/96-10/96
Thesis – On the estimation of the body surface Laplacian from noisy body surface potential data
Placement: Engineer, Sharp USA
26. Xian Yu, MS Student, 08/94-10/96
Thesis – Development of a cardiac electric mapping software system
Placement: Engineer, Motorola
27. Mike O'Hara, MS Student, 08/94-10/96
Thesis – Investigation of body surface Laplacian maps of ventricular depolarization in adult males
Placement: Engineer, Baxter Health Care

Undergraduate Students Advising (Research Advisor)

Over 100 undergraduate students advised at Carnegie Mellon University, University of Minnesota and University of Illinois at Chicago

Postdoctoral Fellows/Research Associates/Visiting Scholars Supervision

* Fellowship awardees

1. Keunhyung Lee, PhD, 10/24-Present
Project: Mechanisms of Focused Ultrasound Neuromodulation
2. Hanwen Wang, PhD, 11/24-Present
Project: EEG-based Brain-Computer Interface
3. Huan Gao, PhD, 9/22-Present
Project: Focused Ultrasound Neuromodulation
4. Min Kim, PhD, 1/20-Present

5. Project: Focused Ultrasound Neuromodulation Treating Pain
Abbas Sohrabpour*, PhD, 6/18-5/22
Project: Functional Neuroimaging of Epilepsy
Placement: Distinguished David Cohen Fellow, Harvard Medical School
6. Kai Yu, PhD, 9/18-10/19
Project: Focused Ultrasound Neuromodulation
Current Position: Assistant Professor, University of Connecticut
7. Haiteng Jiang, PhD, 6/16-6/21
Project: Functional Brain Connectivity Mapping
Placement: Research Professor, Zhejiang University
8. Jianjun Meng, PhD, 2/14-8/19
Project: Brain-Computer Interface
Placement: Associate Professor, Shanghai Jiao Tong University
9. Xiaotong Zhang, PhD, 7/09-9/15
Project: MR Electrical Property Imaging
Placement: Associate Professor, Zhejiang University
10. Li Zhang, PhD, 10/13-10/14
Project: Brain-Computer Interface
Current Position: Associate Professor, Chongqing University
11. Shuai Zhang, PhD, 3/13-3/14
Project: Magnetoacoustic Imaging
Current Position: Professor, Hebei Institute of Technology
12. Junfeng Sun*, PhD, 8/12-8/13
Project: Functional Neuroimaging of Schizophrenia
Current Position: Associate Professor, Shanghai Jiao Tong University
13. Gang Hu, PhD, 11/08-11/11
Project: Magnetoacoustic Imaging
Placement: Research Fellow, Harvard Medical School
14. Dakun Lai, PhD, 8/08-11/12
Project: Cardiac Electrical Imaging
Current Position: Professor, Electronic Univ of Science and Technology of China
15. Ardalan Aarabi, PhD, 1/10-8/11
Project: Seizure Prediction
Current Position: Professor, University of Picardie Jules Verne, France
16. Yakang Dai, PhD, 7/09-7/11
Project: Neuroimaging
Current Position: Professor, Chinese Academy of Sciences
17. Jun Liu*, PhD, 02/09-02/11
Project: Electromagneto-acoustic Imaging
Current Position: Associate Professor, Zhejiang University
18. Jungang Qin, PhD, 4/10-4/11
Project: Cognitive Neuroimaging
Placement: Postdoc, National University of Singapore
19. Chenguang Liu, PhD, 1/10-3/11
Project: Cardiac Electric Tomography
Current Position: Research Scientist, Philips Healthcare
20. Gang Wang, PhD, 4/08-6/10
Project: EEG Source Localization
Placement: Assistant Professor, Xian Jiao Tong University
21. Zhongming Liu, PhD, 10/08-04/09

- Project: Multimodal Neuroimaging
Current Position: Associate Professor, University of Michigan
22. Wei Zhang, PhD, 11/07-11/08
Project: Epilepsy Signal Processing
Current Position: Associate Professor, Tongji University, China
23. Qingyu Ma, PhD, 11/06-10/07
Project: Magnetoacoustic Imaging
Current Position: Professor, Nanjing Normal University, China
24. Nuo Gao, PhD, 7/06-7/07
Project: Magnetic Resonance Electrical Impedance Imaging
Placement: Associate Professor, Shandong Architecture Materials Industry University, China
25. Rongmin Xia, PhD, 8/06 – 8/07
Project: Magnetoacoustic Imaging
Placement: Postdoc, Cornell Medical School
26. Xiaoxiao Bai*, PhD, 7/04 – 6/07
Project: EEG Source Localization
Placement: Associate Research Professor, Yale University
27. Yingchun Zhang*, PhD, 9/04 – 7/07
Project: Finite Element Modeling of Bioelectrical Activity
Current Position: Professor, University of Miami
28. Chang-Hwan Im*, PhD, 3/05 – 2/06
Project: Brain Source Imaging
Current Position: Professor, Hanyang University, Korea
29. Yuan Xu, PhD, 9/04 – 6/05
Project: Electrical Impedance Imaging
Current Position: Professor, Ryerson University, Canada
30. Tao Wang, PhD, 12/02 – 12/03
Project: Neural Modeling and Imaging
Current Position: Professor, Southern Medical University, China
31. Guanglin Li, PhD, 7/00 – 6/02
Project: Cardiac Source Localization and Mapping
Current Position: Professor, Chinese Academy of Sciences
32. Masao Sumiya*, PhD, 5/01 – 3/02
Project: Brain Imaging
Placement: Associate Professor, Ibaraki Industrial College
33. Junichi Hori*, PhD, 10/99-8/00
Project: Signal and Image Processing
Current Position: Professor, Niigata University
34. Hiroshi Sasaki*, PhD, 6/99 – 2/00
Project: Human Brain Mapping
Placement: Associate Professor, Tamagawa University
35. Dongsheng Wu, PhD, 8/98 – 4/99
Project: 3-dimensional Bioelectric Imaging
Placement: Member of Technical Staff, Morningstar, Inc.
36. Ken Umetani*, MD, 6/95-7/97
Project: Body Surface Mapping and Heart Rate Variability
Placement: Associate Professor, Yamagashi Medical University
37. Masafumi Nakagawa*, MD, 4/96-6/97
Project: Brain Mapping
Current Position: Professor, Juntendo University

38. Yunhua Wang, PhD, 12/95-11/96
 Project: Cortical Electrical Imaging from Scalp EEG
 Placement: Research Associate, McGill University, Canada

Courses Taught

- Advanced Biomedical Imaging
- Bioelectromagnetism
- Bioelectricity and Bioinstrumentation
- Biomedical Functional Imaging
- Bioinstrumentation and Measurements
- Bioinstrumentation and Measurements Lab
- Biological Signal Analysis
- Brain-Computer Interfaces: Principles and Applications
- Circuit and Signal Processing
- Introduction to Bioelectric phenomena
- Neural Engineering
- Neuroengineering Practicum
- Pattern Recognition
- Professional Issues in Biomedical Engineering

Publications

(H-index: 97; Total Citations: 35,234 - Google Scholar)

Note: *Italicized names* indicate those under He's direct supervision.

Manuscripts under Review:

1. *Wang H, Zhang Y, Karrenbach M, Ding Y, He B*: "Sensory-guided joint learning accelerates acquisition of motor imagery brain computer interface control," *Nature Communications*, under review.
2. *Cai Z, Gonsisko C, Jiang X, Bagic A, Worrell G, Richardson M, He B*: "Spontaneous HFO Sequences Reveal Propagation Pathways for Precise Delineation of Epileptogenic Networks", *Nature Communications*, under review.
3. *Rong J, Cai Z, Gonsisko C, Joseph B, Worrell GA, He B*: "Transformer-based EEG Source Imaging Enables Robust Localization of Pathological High-Frequency Oscillations in Epilepsy," *Brain Communications*, under review.
4. *Ding Y and He B*: "Brain-Computer Interfaces for Robotic Control," *National Science Review*, under review.

Peer-reviewed Journal Articles:

1. *Ding Y*, Kosnoff J*, He B*: "Convergence of Deep Learning, Modulation and Robotics in Noninvasive Brain-Computer Interfaces," *Trends in Neurosciences*, in press. (* contributed equally)
2. Motzkin JC, *He B*, Gupta K, Shirvalkar P: "Chronic pain is a brain network disorder," *JAMA Neurology*, 83(3), 205-206, 2026.
3. *Kosnoff J, Gonsisko C, Yu K, Zhang J, Ding Y, Zhang Y, He B*: "Transcranial focused ultrasound induces source localizable cortical activation in resting state humans when applied concurrently with transcranial electric stimulation," *Nature Communications*, 17, 2023, 2026.
4. *Kim MG, Yeh C, Gao H, Lee K, Gupta K, He B*: "Low-Intensity Transcranial Focused Ultrasound Engages Parvalbumin-Positive GABAergic Interneurons in a Humanized Mouse Model of Chronic Pain: From Electrophysiology to Cellular Investigation," *Journal of Neural Engineering*, 23, 026029, 2026.

5. Gao H, Frake A, Durand D, He B: "Transcranial Focused Ultrasound Stimulation Targeting White Matter Inhibits Seizures in a Rat Model of Epilepsy," *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, 34, 251-259, 2026.
6. Jiang X, Cai Z, Gonsisko C, Worrell G, He B: "Mapping Epileptogenic Brain Using a Unified Spatial-Temporal-Spectral Source Imaging Framework," *PNAS*, 122(50), e2510015122, 2025.
7. Ding Y, Udompanyawit C, Zhang Y, He B: "EEG-based Brain-Computer Interface Enables Real-time Robotic Hand Control at Individual Finger Level", *Nature Communications*, 16, 5401, 2025.
8. Gao H, Ramachandran S, Yu K, He B: "Transcranial focused ultrasound activates feedforward and feedback cortico-thalamo-cortical pathways by selectively activating excitatory neurons", *Journal of Neuroscience*, 45, e2218242025, 2025.
9. Ramachandran S, Gao H, Yttri E, Yu K, He B: "Parameter-dependent cell-type specific effects of transcranial focused ultrasound stimulation in an awake head-fixed rodent model," *J. Neural Eng.*, 22, 026022, 2025.
10. Edelman BJ, Zhang S, Schalk G, Brunner P, Müller-Putz G, Guan C, He B: "Noninvasive Brain-Computer Interfaces: State of the Art and Trends," *IEEE Reviews in Biomedical Engineering*, 18, 26-49, 2025.
11. Bondi E*, Ding Y*, Zhang Y, Maggioni E, He B: "Investigating the neurovascular coupling across multiple motor execution and imagery conditions: a whole-brain EEG-informed fMRI analysis", *NeuroImage*, 317, 121311, 2025. (* contributed equally)
12. Yu K and He B, "Transcranial focused ultrasound modulates visual thalamus in a nonhuman primate model", *IEEE Transactions on Biomedical Engineering*, 72(10), 2893-2901, 2025.
13. Rong J, Sun R, Joseph B, Worrell G, He B: "Deep learning-based EEG source imaging is robust under varying electrode configurations", *Clinical Neurophysiology*, 175, 2010730, July 2025.
14. Kim MG, Yeh CY, Yu K, Li Z, Gupta K, He B: "Analgesic effect of simultaneously targeting multiple pain processing brain circuits in an aged humanized mouse model of chronic pain by transcranial focused ultrasound", *APL Bioengineering*, 9, 016108, 2025.
15. Li Z, Yu K, Kosnoff J, He B: "Improving Targeting Specificity of Transcranial Focused Ultrasound in Subject Specific Head Models Using a Random Array Transducer: A k-Wave Simulation Study," *IEEE Access*, 113179-113193, 2025.
16. Forenzo D, Zhang Y, Wittenberg GF, He B: "Continuous Reaching and Grasping with a BCI Controlled Robotic Arm in Healthy and Stroke-Affected Individuals," *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, 33, 3888-3899, 2025.
17. Yu K, Schmitt S, Ni Y, Crane E, Smith M, He B: "Transcranial Focused Ultrasound Remotely Modulates Extrastriate Visual Cortex with Subregion Specificity," *Journal of Neural Engineering*, 21, 066018, 2024.
18. Gonsisko C, Cai Z, Jiang X, Duque Lopez A, Worrell G, He B: "Electroencephalographic source imaging of spikes with concurrent high-frequency oscillations is concordant with the clinical ground truth," *Epilepsia*, 65 (12), 3571-3582, 2024.
19. Kim M*, Yu K*, Yeh C, Fouda R, Argueta D, Kiven S, Ni Y, Niu X, Chen Q, Kim K, Gupta K, He B: "Low-intensity transcranial focused ultrasound changes pain-associated behaviors by modulating pain processing brain circuits," *Blood*, 144 (10): 1101–1115, 2024 (* contributed equally).
20. Forenzo D, Zhu H, He B. A continuous pursuit dataset for online deep learning-based EEG brain-computer interface. *Scientific Data*, 11, 1256, 2024.
21. Sun R, Sohrabpour A, Joseph B, Worrell G, He B: "Spatiotemporal Rhythmic Seizure Sources Can be Imaged from Scalp EEG by means of Biophysically Constrained Deep Neural Networks," *Advanced Science*, 2405246, 2024.
22. Kosnoff J, Yu K, Liu C, He B: "Transcranial Focused Ultrasound to V5 Enhances Human Visual Motion Brain-Computer Interface by Modulating Feature-Based Attention," *Nature Communications*, 15, 4382, 2024.
23. Forenzo D, Zhu H, Shanahan J, Lim J, He B: "Continuous Tracking using Deep Learning-based Decoding for Non-invasive Brain-Computer Interface," *PNAS Nexus*, 3(4), 145, 2024.

24. Ye S, Bagic A, He B: "Disentanglement of Resting State Brain Networks for Localizing Epileptogenic Zone in Focal Epilepsy," *Brain Topography*, 37(1): 152–168, 2024.
25. Sun R, Zhang W, Bagic A, He B: "Deep learning based source imaging provides strong sublobar localization of epileptogenic zone from MEG interictal spikes," *NeuroImage*, 281, 120366. <https://doi.org/10.1016/j.neuroimage.2023.120366>, 2023.
26. Forenzo D, Liu Y, Kim J, Ding Y, Yoon T, He B: "Integrating simultaneous motor imagery and spatial attention for EEG-BCI control," *IEEE Transactions on Biomedical Engineering*, doi: 10.1109/TBME.2023.3298957, 2023.
27. Sun R, Sohrabpour A, Worrell GA, He B: "Deep Neural Networks Constrained by Neural Mass Models Improve Electrophysiological Source Imaging of Spatio-temporal Brain Dynamics," *PNAS*, 119(31), e2201128119, 2022.
28. Kim J, Jiang X, Forenzo D, Liu Y, Anderson N, Greco CM, He B: "Immediate effects of short-term meditation on sensorimotor rhythm-based brain–computer interface performance," *Frontiers in Human Neuroscience*, <https://doi.org/10.3389/fnhum.2022.1019279>, 2022.
29. Cai Z, He B: "Ictal Source Localization from Intracranial Recordings," *Clinical Neurophysiology*, <https://doi.org/10.1016/j.clinph.2022.09.013>, 2022.
30. Zhu H, Forenzo D, He B: "On the Deep Learning Models for EEG-based Brain-Computer Interface Using Motor Imagery," *IEEE Trans. Neural Systems and Rehabilitation Engineering*, 30: 2283-2291, 2022.
31. Ramachandran S, Niu R, Yu K, He B: "Transcranial ultrasound neuromodulation induces neuronal correlation change in the rat somatosensory cortex," *Journal of Neural Engineering*, <https://doi.org/10.1088/1741-2552/ac889f>, 19, 056002, 2022.
32. Jiang H, Kokkinos V, Ye S, Urban A, Bagic A, Richardson M, He B: "Interictal SEEG resting-state connectivity localizes the seizure onset zone and predicts seizure outcome," *Advanced Science*, <https://doi.org/10.1002/advs.202200887>, 2022.
33. Niu X, Yu K, He B: "Transcranial focused ultrasound induces sustained synaptic plasticity in rat hippocampus," *Brain Stimulation*, 15(2): 352-359, 2022.
34. Shin H, Suma D, He B: "Closed-loop motor imagery EEG simulation for brain-computer interfaces," *Frontiers of Human Neuroscience*, <https://doi.org/10.3389/fnhum.2022.951591>, 2022.
35. Guo X, Wang M, Wang X, Guo M, Xue T, Wang Z, Li H, Xu T, He B, Cui D, Tong S: "Progressive Increase of High-Frequency EEG Oscillations during Meditation is Associated with its Trait Effects on Heart Rate and Proteomics: A Study on the Tibetan Buddhist," *Cerebral Cortex*, 32(18): 3865-3877, 2022.
36. Jiang X, Ye S, Sohrabpour A, Bagic A, He B: "Imaging the extent and location of spatiotemporally distributed epileptiform sources from MEG measurements," *NeuroImage: Clinical*, vol. 33, 102903, 2022.
37. Kim M, Yu K, Niu X, He B: "Investigation of displacement of intracranial electrode induced by focused ultrasound stimulation," *IEEE Transactions on Instrumentation & Measurement*, 70:9600509, 2021.
38. Cai Z, Sohrabpour A, Jiang H, Ye S, Joseph B, Brinkmann BH, Worrell G, He B: "Noninvasive High-frequency Oscillations Riding Spikes Delineates Epileptogenic Sources" *PNAS*, 118 (17) e20111301182021, 2021.
39. Yu K*, Niu X*, Krook-Magnuson E, He B: "Intrinsic Functional Neuron-type Selectivity and Inter-neuronal Connectivity Alteration by Transcranial Focused Ultrasound," *Nature Communications*, 12, 2519, 2021 (* contributed equally).
40. Li C, Sohrabpour A, Jiang H, He B: "High-frequency Hubs of The Ictal Cross-frequency Coupling Network Predict Surgical Outcome in Epilepsy Patients," *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, vol. 29, pp. 1290-1299, 10.1109/TNSRE.2021.3093703, 2021.
41. DeBari MK, Niu X, Scott JV, Griffin MD, Pereira SR, Cook KE, He B, and Abbott RD: "Therapeutic Ultrasound Triggered Silk Fibroin Scaffold Degradation," *Adv. Healthcare Mater.*, 2100048, 2021.

42. Ye S, Yang L, Lu Y, Kucewicz MT, Brinkmann B, Nelson C, Sohrabpour A, Worrell G, He B: "Ictal Source Imaging Contributes to Seizure Onset Zone Localization in Focal Epilepsy Patients," *Neurology*, 96(3), DOI: <https://doi.org/10.1212/WNL.0000000000011109>, 2021.
43. Stieger J, Engel S, Jiang H, Cline CC, Kreitzer MJ, He B: "Mindfulness Improves Brain Computer Interface Performance by Increasing Control over Neural Activity in the Alpha Band," *Cerebral Cortex*, 31(1): 426-438, 2021.
44. Stieger J, Engel S, Suma D, He B: "Benefits of deep learning classification of continuous noninvasive brain-computer interface control," *Journal of Neural Engineering*, 18, 046082, 2021.
45. Jiang H, Stieger J, Kreitzer MJ, Engel S, He B: "Frontolimbic alpha activity tracks intentional rest BCI control improvement through mindfulness meditation," *Scientific Reports*, 11, 6818, 2021.
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