Sara J Hussain, PhD
412 Field House
225 S. Grand Ave
Iowa City, IA 52240

EDUCATION

Ph.D., Human Physiology, The University of Iowa, Iowa City, IA 2016
Optimizing motor memory in healthy adults; Advisor: Kelly J Cole, PhD

B.S., Integrative Physiology, The University of Iowa, Iowa City, IA 2011

PROFESSIONAL APPOINTMENTS

Assistant Professor 2025-present
Health, Sport, and Human Physiology
The University of Iowa
Iowa City, IA

Assistant Professor (courtesy appointment) 2025-present
Neurology
The University of Iowa
Iowa City, IA

Assistant Professor 2021-2025
Kinesiology and Health Education
The University of Texas at Austin
Austin, TX

Postdoctoral Fellow 2016-2021
Human Cortical Physiology and Neurorehabilitation Section
National Institute of Neurological Disorders and Stroke
National Institutes of Health
Bethesda, MD

Graduate Teaching Assistant 2013-2016
Department of Health and Human Physiology
The University of Iowa
Iowa City, IA

Graduate Research Assistant 2011-2013
Neural Control of Movement Laboratory
Department of Physical Therapy and Rehabilitation Science
The University of Iowa
Iowa City, IA

Research Assistant 2009-2011
Neuromuscular Biomechanics Laboratory
Department of Physical Therapy and Rehabilitation Science
The University of Iowa
Iowa City, IA

PUBLICATIONS

Peer-Reviewed Journal Articles

Lowe T, Suresh T, Oro EG, Freedberg M, **Hussain SJ**, Griffin L. Local vibration of the hamstrings induces changes in cortical and spinal excitability to the antagonist quadriceps following ACL reconstruction. *Medicine and Science in Sports and Exercise*, in press.

Ahmed NA, *Suresh T*, **Hussain SJ**, Freedberg MV. (2025). Investigating the effect of task engagement during intertrial rest periods on micro offline gains. *Scientific Reports* 15(1):37396.

Suresh T, Iwane F, Zhang M, *McElmurry M*, *Manesiya M*, Freedberg MV, **Hussain SJ**. (2025). Motor sequence learning elicits mu peak-specific corticospinal plasticity. *Journal of Neurophysiology* 134(1):250-263.

Khatri U, *Pulliam K*, *Manesiya M*, *Vieyra Cortez M*, Millán JDR, **Hussain SJ**. (2025). Personalized whole-brain activity patterns predict human corticospinal tract activation in real-time. *Brain Stimulation* 18(1):64-76. https://doi.org/10.1016/j.brs.2024.12.1193.

Hussain SJ, Freedberg MV. Debunking the myth of excitatory and inhibitory repetitive transcranial magnetic stimulation in cognitive neuroscience research. (2025). *Journal of Cognitive Neuroscience* 37(5):1009-1022. https://doi.org/10.1162/jocn_a_02288.

Campos B, Choi H, DeMarco AT, Seydell-Greenwald A, **Hussain SJ**, Joy MT, Turkeltaub PE, Zeiger W. All authors contributed equally. (2023). Rethinking remapping: circuit mechanisms of recovery after stroke. *Journal of Neuroscience* 43(45):7489-7500. https://doi.org/10.1523/JNEUROSCI.1425-23.2023.

Suresh T, **Hussain SJ**. (2023). Re-evaluating the contribution of sensorimotor mu rhythm phase to human corticospinal output: a replication study. Letter to the Editor, *Brain Stimulation,* 16(3):936-938. https://doi.org/10.1016/j.brs.2023.05.022.

Hussain SJ, *Vollmer MK*, Iturrate I, Quentin R. (2022). Voluntary motor command release coincides with restricted sensorimotor beta rhythm phases. *Journal of Neuroscience,* 42(29):5771-5781. https://doi.org/10.1523/JNEUROSCI.1495-21.2022.

> Featured in commentary; Neige C, Yadav G, Derosiere G. (2023) The oscillatory nature of movement initiation. *Journal of Neuroscience* 43(6):882-884. https://doi.org/10.1523/JNEUROSCI.1687-22.2022

Hussain SJ, Quentin R. (2022). Decoding personalized motor cortical excitability states from human electroencephalography. *Scientific Reports,* 12(1):1-12. https://doi.org/10.1038/s41598-022-10239-3.

Hussain SJ, *Vollmer MK*, *Stimely JS*, Norato G, Zrenner C, Ziemann U, Buch ER, Cohen LG. (2021). Phase-dependent offline enhancement of human motor memory. *Brain Stimulation*, 14(4):873-883. https://doi.org/10.1016/j.brs.2021.05.009.

> Featured in *NIH Intramural Research Program Weekly.* https://irp.nih.gov/blog/post/2021/10/to-boost-learning-timing-may-be-everything

Baur D, Galevska D, **Hussain SJ**, Cohen LG, Ziemann U, Zrenner C. (2020). Induction of LTD-like corticospinal plasticity by low-frequency rTMS depends on pre-stimulus phase of sensorimotor μ-rhythm. *Brain Stimulation*, 13(6):1580-1587. https://doi.org/10.1016/j.brs.2020.09.005.

Hussain SJ, *Hayward W, Fourcand F*, Zrenner C, Ziemann U, Buch ER, Hayward MK, Cohen LG. (2020). Phase-dependent transcranial magnetic stimulation of the lesioned hemisphere is accurate after stroke. Letter to the Editor, *Brain Stimulation*, 13(5):1354-1357. https://doi.org/10.1016/j.brs.2020.07.005.

Freedberg MV, Reeves JA, **Hussain SJ**, Zaghloul KA, Wassermann EM. (2020). Identifying site- and stimulation-specific TMS-evoked EEG potentials using a quantitative cosine similarity metric. *Public Library of Science (PLoS) One* 15(1):e0216185. https://doi.org/10.1371/journal.pone.0216185.

Hussain SJ, Cohen LG, Bönstrup M. (2019). Beta rhythm events predict corticospinal motor output. *Scientific Reports* 9(1):1-10. https://doi.org/10.1038/s41598-019-54706-w.

Hussain SJ, Claudino L, Bönstrup M, Norato G, Cruciani G, Thompson R, Zrenner C, Ziemann U, Buch ER, Cohen LG. (2019). Sensorimotor oscillatory phase-power interaction gates resting human corticospinal output. *Cerebral Cortex* 29(9):3766-3777. https://doi.org/10.1093/cercor/bhy255.

Hussain SJ, Thirugnanasambandam N. (2017) Probing phase- and frequency-dependent characteristics of cortical neurons using combined transcranial alternating current stimulation and transcranial magnetic stimulation. *Journal of Neurophysiology* 117(6):2085-2087. https://doi.org/10.1152/jn.00060.2017.

Hussain SJ, Cohen LG. (2017). Exploratory studies: A crucial step towards better hypothesis-driven confirmatory research in brain stimulation. *Journal of Physiology* 595(4):1013. https://doi.org/10.1113/JP273582.

Hussain SJ, Frey Law LA. (2016). 3D strength surfaces for ankle plantar- and dorsi-flexion in healthy adults: an isometric and isokinetic dynamometry study. *Journal of Foot and Ankle Research* 9(1):43. https://doi.org/10.1186/s13047-016-0174-1.

Hussain SJ, Darling WG, Cole KJ. (2016). Recent history of effector use modulates practice-dependent changes in corticospinal excitability but not motor learning. *Brain Stimulation* 9(4):584-593. https://doi.org/10.1016/j.brs.2016.03.019.

Hussain SJ, Cole KJ. No enhancement of 24-hour visuomotor skill retention by post-practice caffeine administration. (2015). *Public Library of Science (PLoS) One* 10(6):e0129543. https://doi.org/10.1371/journal.pone.0129543.

Hussain SJ, Morton SM. (2014). Perturbation schedule does not alter retention of a locomotor adaptation across days. *Journal of Neurophysiology* 111(12):2414-2422. https://doi.org/10.1152/jn.00570.2013.

Hussain SJ, Hanson AM, Tseng SC, Morton SM. (2013). A locomotor adaptation including explicit knowledge and removal of post-adaptation errors induces complete 24-hour retention. *Journal of Neurophysiology* 110(4):916-925. https://doi.org/10.1152/jn.00770.2012.

Works Under Review / In Revision / In Preparation

Suresh T, *Khatri UU*, **Hussain SJ**. Premotor mu rhythm waveform shape predicts motor sequence learning. In preparation.

Vesia MA, Lee T, **Hussain SJ**. All authors contributed equally. Effect of non-invasive brain stimulation on voluntary movements. *Handbook of Clinical Neurology: Motor Control Methods and Clinical Application.* Under review.

OPEN ACCESS DATASETS

Hussain SJ, *Khatri UU.* Real-time personalized brain state-dependent TMS in healthy adults. https://openneuro.org/datasets/ds005779/versions/1.0.1

Hussain SJ. Phase-dependent offline enhancement of human motor memory. https://zenodo.org/record/4046953

Hussain SJ. Single-pulse open-loop TMS-EEG dataset. https://openneuro.org/datasets/ds002094

Hussain SJ. No enhancement of 24-hour visuomotor skill retention by post-practice caffeine administration. https://doi.org/10.5061/dryad.j91v7.2

RESEARCH FUNDING

Sponsored Research Funding

Active (pending transfer to University of Iowa)

Sponsor: National Institute of Child Health and Human Development
Project Title: Towards personalized brain state-dependent TMS to enhance poststroke hand rehabilitation (Early Career R03)
Funding period: 8/01/2024-7/31/2025
Principal Investigator: Hussain, SJ
Role and contribution of candidate: PI, wrote proposal, conceptualized and designed research projects
Total funding: $317,119

Sponsor: National Institute of Neurological Disorders and Stroke
Project Title: Developing real-time personalized TMS to target residual corticospinal connections after stroke (R21)
Funding period: 4/1/2024-3/31/2026
Principal Investigator: Hussain, SJ
Role and contribution of candidate: PI, wrote proposal, conceptualized and designed research projects
Total funding: $450,905

Completed

Sponsor: National Institute of Child Health and Human Development
Project Title: Developing real-time personalized brain state-dependent TMS to target residual corticospinal connections after stroke (K12)
Funding period: 8/1/2022-7/31/2024
Principal Investigator: Bregman, B; Dromerick, A (Subaward PI/Scholar: Hussain, SJ).
Role and contribution of candidate: Subaward PI Institutional Career Development Award. Wrote subaward proposal, conceptualized, designed, and carried out subaward research projects and career development activities
Total funding: $250,000

Sponsor**:** National Institute of Neurological Disorders and Stroke (NINDS)
Project Title**:** Effects of closed-loop TMS on human motor function (F32 equivalent)
Funding period**:** 4/1/2018-12/31/2020
Principal Investigator**:** Hussain, SJ.
Role and contribution of candidate**:** PI for Intramural NINDS Competitive Fellowship Award. Wrote proposal, conceptualized, designed, and carried out research.
Total funding: $264,000

AWARDS AND HONORS

2022 National Center for Faculty Development and Diversity Program Awardee. University of Texas at Austin.

2021 Finalist for Interdisciplinary Rehabilitation Engineering Research Career Development Program. Department of Physical Therapy and Human Movement Science, Northwestern University.

2020 Annual Meeting Scholarship Award. Society for the Neural Control of Movement.

2015 Trainee Professional Development Award. Society for Neuroscience.

2015 Post-comprehensive Exam Summer Research Fellowship. University of Iowa Graduate College.

2015 Ray-Tai and Ray-Fong Chang Scholarship. University of Iowa Department of Health and Human Physiology.

2015 Research Project Grant. University of Iowa Graduate and Professional Student Government.

2013 Research Project Grant. University of Iowa Graduate and Professional Student Government.

2013 Travel Grant. University of Iowa Graduate and Professional Student Government.

2010 Summer Research Fellowship. University of Iowa Center for Undergraduate Research.

TEACHING

University of Texas at Austin

Primary Instructor (2021-present)

KIN 335C: Motor Learning (undergraduate, Spring 2021, Fall 2021, Spring 2022, Spring 2023)
KIN 395C: Motor Control: Performance and Learning (graduate, Spring 2021, Spring 2025)
KIN 395C: Motor Control: Human Neuroplasticity (graduate, developed/added to course catalogue, not yet taught)

Guest Lecturer (2021-present)

KIN 397: Seminar in Movement and Cognitive Rehabilitation Science (graduate, Spring 2021, Spring 2022)
KIN 397: Seminar in Health Behavior and Health Education (graduate, Spring 2023)

University of Iowa

Primary Instructor (2025-present)

HSHP 4230: Motor Control Theory (upper-level undergraduate, Spring 2026)

Teaching Assistant (2013-2016)

HHP 3300: Human Growth and Motor Development (undergraduate)
HHP 1100: Human Anatomy (undergraduate)
HHP 4130: Skeletal Muscle Physiology (undergraduate)
HHP 4470: Physiology of Aging (undergraduate)

PRESENTATIONS

Invited Talks

“Personalized noninvasive brain state-dependent stimulation for recovery of hand function after stroke.” University of Texas at Austin Dell Medical School Department of Neurology Grand Rounds. April 2024. Conducted virtually.

"Phase-dependent and machine learning-driven real-time TMS: motor control mechanisms and interventional opportunities." Department of Kinesiology, Pennsylvania State University. State College, PA. March 2024.

"Understanding and enhancing human motor control using brain state-dependent neurostimulation." Department of Physical Medicine and Rehabilitation, Case Western Reserve University and Cleveland MetroHealth. Cleveland, OH. March 2024.

"Understanding and enhancing human motor control using brain state-dependent neurostimulation." Department of Psychology, University of Texas at Austin. Austin, TX. January 2024.

"Phase-dependent and machine learning-driven real-time TMS: motor control mechanisms and interventional opportunities." Center for Neuromodulation in Depression and Stress, University of Pennsylvania. Conducted virtually. June 2023.

"Understanding and enhancing human motor control with brain state-dependent neurostimulation." Department of Kinesiology, Texas A&M University. Conducted virtually. April 2023.

"Understanding and enhancing human motor control with brain state-dependent neurostimulation." Frontiers in Neuroscience Seminar Series, Emory University. September 2022.

"Uncovering oscillatory mechanisms of human motor control with phase-dependent TMS." 3rd International Workshop on Noninvasive Brain Stimulation. Minneapolis, MN. June 2022.

"Decoding motor cortical excitability: towards personalized brain state-dependent TMS." Department of Clinical Neurosciences Physiological Neuroimaging Group, University of Oxford. Conducted virtually. April 2022.

"Sensorimotor rhythmic control of human motor function: the essential role of phase." Human Neuroscience and Systems Colloquium, University of Alabama at Birmingham. Conducted virtually. May 2022.

"Enhancing motor behavior with brain state-dependent transcranial magnetic stimulation." *Brain Stimulation* Journal Virtual Journal Club. Conducted virtually. November 2021.

"Brain waves and movement: the importance of phase." Center for Brain and Cognitive Sciences Brain Awareness Week, India Institute of Technology at Ghandinagar. Conducted virtually. March 2021.

"Characterizing oscillatory mechanisms of human motor control: towards therapeutic closed-loop brain stimulation." Department of Electrical and Computer Engineering Clinical Neuroprosthetics and Brain Interaction Laboratory, University of Texas at Austin. Conducted virtually. January 2021.

"Sensorimotor rhythmic control of human motor function." Rehabilitation Seminar Series, University of Maryland School of Medicine. Baltimore, MD. February 2020.

"Evaluating rhythmicity of corticospinal motor output after stroke." Clinical Neuroscience Grand Rounds, National Institutes of Health and Johns Hopkins University School of Medicine. Bethesda, MD. November 2019.

Conference Presentations

Symposium organizer and chair/co-chair

"Mapping and facilitating descending motor pathways after stroke: implications for recovery." 6th International Brain Stimulation Conference. Kobe, Japan. February 2025.

"Brain oscillation-dependent TMS of the human motor system: from basic science to therapeutic applications." 7th International Conference on Non-Invasive Brain Stimulation. Conducted virtually due to COVID. November 2020.

Symposium speaker

"Developing real-time personalized brain state-dependent TMS to target residual corticospinal connections after stroke." 6th International Brain Stimulation Conference. Kobe, Japan. February 2025.

"Developing real-time personalized brain state-dependent TMS to target residual corticospinal connections after stroke." Society for Neuroscience Annual Meeting. Washington, DC. November 2023.

"Advances in neuromodulation of human movement." University of Texas System Brain Research Summit. Austin, TX. November 2022.

"Mu phase-dependent TMS reveals the cyclic nature of motor memory consolidation." 7th International Conference on Non-Invasive Brain Stimulation. Conducted virtually due to COVID. November 2020.

"Phase-dependent enhancement of skill consolidation in human cortex." Society for the Neural Control of Movement Award Winners Symposium. Conducted virtually due to COVID. June 2020.

Platform presentations

Hussain SJ. "An open-loop TMS study evaluating the impact of mu and beta oscillations on motor-evoked potential amplitudes." 31st International Congress of Clinical Neurophysiology. Washington, DC. March 2018.

Rahmawati, **Hussain SJ**, Freedberg MV. "Real-time influence of episodic memory retrieval on the procedural network." Society for Neuroscience Annual Meeting. Washington, DC. November 2023.

Poster presentations

Khatri UU, *Suresh T, Márquez Cárdenas V, Manesiya M*, Borich MR, **Hussain SJ**. "Personalized poststroke brain state-dependent TMS targeting the residual corticospinal tract is feasible." American Society for Neurorehabilitation Annual Meeting. Atlanta, GA. April 2025.

Ahmed N, *Suresh T*, **Hussain SJ**, Freedberg MV. "Micro-offline gains do not rely on hippocampal-dependent processes." Society for Neuroscience Annual Meeting. Chicago, IL. October 2024.

Suresh T, Iwane F, Zhang M, *McElmurry M, Manesiya M*, Freedberg MV, **Hussain SJ.** "Behaviorally-relevant corticospinal plasticity is most strongly expressed during sensorimotor mu rhythm trough phases." Society for Neuroscience Annual Meeting. Chicago, IL. October 2024.

Khatri U, Hussain SJ. "Personalize**d** whole-brain activity patterns predict corticospinal tract activation in real-time." Society for Neuroscience Annual Meeting. Washington, DC. November 2023.

Lowe T, *Suresh T*, Yang J, Freedberg MV, **Hussain SJ,** Griffin LG. "Acute prolonged hamstrings vibration increases quadriceps spinal and corticospinal excitability following anterior cruciate ligament reconstruction." American College of Sports Medicine Annual Meeting Denver, CO. June 2023.

Rahmawati R, **Hussain SJ**, Freedberg MV. Real-time influence of declarative memory retrieval on procedural memory network output. Organization for Human Brain Mapping Annual Meeting. Montreal, Canada. July 2023.

Khatri U, **Hussain SJ**. Personalized brain activity patterns predict corticospinal tract activation in real-time. American Society for Neurorehabilitation Annual Meeting. Charleston, SC. March 2023.

Suresh T, Iwane F, Zhang M, **Hussain SJ**. Learning-related corticospinal plasticity is sensorimotor mu phase-dependent. Society for Neuroscience Annual Meeting. San Diego, CA. October 2022.

Hussain SJ, *Vollmer MK*, Iturrate I, Quentin R. Voluntary motor commands are preferentially released during restricted sensorimotor beta rhythm phases. Society for Neuroscience Annual Meeting. Conducted virtually. October 2021.

Hussain SJ, Quentin R. Decoding individualized motor cortical excitability states from whole-brain electroencephalography. 2nd International Workshop on Non-Invasive Brain Stimulation Conducted virtually due to COVID-19. June 2021.

Vollmer MK, **Hussain SJ**. Quentin R, Iturrate I, Cohen LG. Sensorimotor mu phase-dependency of self-paced movement initiation. Society for Neuroscience Annual Meeting. Chicago, IL. October 2019.

Hussain SJ, *Vollmer MK*, Norato G, Zrenner C, Buch ER, Ziemann U, Cohen LG. Cyclic consolidation of human motor memory. Society for Neuroscience Annual Meeting. Chicago, IL. October 2019.

Hussain SJ, Claudino L, Bönstrup M, Norato G, Zrenner C, Ziemann U, Buch ER, Cohen LG. Sensorimotor oscillatory phase-power interactions determine human corticospinal output. Society for Neuroscience Annual Meeting. San Diego, CA. October 2018.

Hussain SJ, Claudino L, Bönstrup M, Norato G, Zrenner C, Ziemann U, Buch ER, Cohen LG. Sensorimotor oscillatory power shapes rhythmic fluctuations in human corticospinal excitability. Society for the Neural Control of Movement Annual Meeting. Santa Fe, NM. April 2018.

Hussain SJ, Bönstrup M, Claudino L, *Cruciani G, Thompson R*, Buch ER, Cohen LG. Effects of brain oscillatory phase and power on TMS effects: an open-loop study. Society for Neuroscience Annual Meeting. Washington, DC. October 2017.

Claudino L, **Hussain SJ**, Buch ER, Cohen LG. Modeling variability induced by coil positioning enhanced detection of TMS effects. Society for Neuroscience Annual Meeting. Washington, DC. October 2017.

Buch ER, **Hussain SJ**, Claudino L, Bönstrup M, *Thompson R, Cruciani G*, Cohen LG. Cross-frequency coupling between alpha- and gamma-band sensorimotor cortex oscillations does not covary with corticospinal excitability at rest. Society for Neuroscience Annual Meeting. Washington, DC. October 2017.

Hussain SJ, Darling WG, Cole KJ. Effects of prior hand use on practice-dependent plasticity and ballistic motor skill learning. Society for Neuroscience Annual Meeting. Chicago, IL. October 2015.

Hussain SJ, Cole KJ. No effect of post-practice caffeine ingestion on 24-hour retention of a visuomotor skill. Society for the Neural Control of Movement Annual Meeting. Charleston, SC. April 2015.

Hussain SJ, Cole KJ. No enhancement of 24-hour visuomotor skill retention by post-practice caffeine administration. Aging Mind and Brain Institute Annual Symposium. Iowa City, IA. May 2015.

Hussain SJ, Morton SM. The effect of gradual vs. abrupt perturbations on retention of a locomotor adaptation. Society for Neuroscience Annual Meeting. San Diego, CA. October 2013.

Hussain SJ, Morton SM. The effect of gradual versus abrupt error on 24-hour retention of a visuomotor locomotor adaptation. Society for Neuroscience Annual Meeting. New Orleans, LA. October 2012.

Hussain SJ, Frey Law LA. Normative 3D strength surfaces in healthy subjects at the ankle joint: plantarflexion and dorsiflexion. Iowa Undergraduate Research in the Capitol. Des Moines, IA. May 2011.

Hussain SJ, Frey Law LA. Normative 3D strength surfaces in healthy subjects at the ankle joint: plantarflexion and dorsiflexion. University of Iowa Fall Undergraduate Research Festival. Iowa City, IA. May 2010.

ADVISING AND STUDENT-RELATED SERVICE

Dissertation Committees

Rifeng Jin, Case Western Reserve University Biomedical Engineering, 2024-present. (Member)
Donald Prible, Movement and Cognitive Rehabilitation Science, 2023-present. (Member)
Uttara Khatri, Movement and Cognitive Rehabilitation Science, 2023-present. (Chair)
Tharan Suresh, Movement and Cognitive Rehabilitation Science, 2023-present. (Chair)
Cory Rebmann, Movement and Cognitive Rehabilitation Science, 2023-present. (Member)
Justin Lader, Music and Human Learning, 2023-2024. (Member)
Xin Yu, Movement and Cognitive Rehabilitation Science, 2022-2023. (Member)
Andéol Cadic-Melchior. École Polytechnique Fédérale de Lausanne, 2022. (Member)
Timothy Lowe. Movement and Cognitive Rehabilitation Science, 2020-2022. (Member)
Josephine Ferrandino. Movement and Cognitive Rehabilitation Science, 2020-2021. (Member)

Master's Thesis Committees

Busra Celik, Movement and Cognitive Rehabilitation Science, 2024. (Reader)
Lara Kamal, Movement and Cognitive Rehabilitation Science, 2024. (Reader)
Drew Morrison, Movement and Cognitive Rehabilitation Science, 2021. (Reader)
Samantha Gonzalez, Movement and Cognitive Rehabilitation Science, 2022. (Reader).

Comprehensive/Qualifying Examination Committees

Rahmawati, Movement and Cognitive Rehabilitation Science, 2024. (Member)
Tharan Suresh, Movement and Cognitive Rehabilitation Science, 2023. (Chair)
Uttara Khatri, Movement and Cognitive Rehabilitation Science, 2023. (Chair)
Cory Rebmann, Movement and Cognitive Rehabilitation Science, 2023. (Member)
Huiying Zhu, Movement and Cognitive Rehabilitation Science, 2023. (Member)
Michela Fracassi, Institute for Neuroscience, 2022. (Member)
Xin Yu, Movement and Cognitive Rehabilitation Science, 2022. (Member)
Donald Prible, Movement and Cognitive Rehabilitation Science, 2022. (Member)

Undergraduate Fieldwork and Lab Supervision

University of Texas at Austin

Tanushree Mazumdar, 2024-present
Samuel Diamond, 2024
Muskan Manesiya, 2022-2024
Hamza Zavera, 2022-2023
Valeria Cardenas, 2022-present
Ahbinav Karnati, 2022-2023
Ethan Lawler, 2022-2023
Grace Johnston, 2022
Kristen Pulliam, 2022-2023
Margaret McElmurry, 2021-2023
Tiffany Lin, 2021-2022
Tushar Talaparthy, 2021

National Institute of Neurological Disorders and Stroke

Sanjna Iyengar, 2018
Selina Williams, 2016

University of Iowa

Benjamin Grothe, 2015-2016
Alexis Koch, 2014-2016
Zachary Wendland, 2015-2016
Ana Glavas, 2014-2016

Postdoctoral, Graduate Student, and Professional Student Lab Supervision

University of Iowa

Yinglu Hong, 2025-present
Joshua Tatz, 2025-present
Ryan Wenzel, 2014-2015
Shauna Dummet, 2014
Alison Charipar, 2014

University of Texas at Austin

Vridhi Rohira, 2025.
Yinglu Hong, 2024-2025
Uttara Khatri, 2021-present
Tharan Suresh, 2021-present
Rahmawati, 2021-2025

National Institute of Neurological Disorders and Stroke

William Hayward, 2020-2021
Farah Fourcand, 2018-2019
Goldy Yadav, 2019-2020

Postbaccalaureate Lab Supervision

University of Iowa

Eleanor Wichman, 2025-present

National Institute of Neurological Disorders and Stroke

Jessica Stimely, 2018-2020
Mary Vollmer, 2017-2019
Ryan Thompson, 2016-2017
Gabriel Cruciani, 2016-2017

ADMINISTRATIVE AND PROFESSIONAL SERVICE

Departmental Service

University of Iowa

Human Physiology Curriculum Committee. 2025-present.
Graduate Education Committee. 2025-present.

University of Texas at Austin

Management Team. 2024-2025.
Subvention Committee. 2024-2025.
Merit Review Committee – Scholarship. 2024-2025.
Movement and Cognitive Rehabilitation Science Area Committee. 2021-present.
Graduate Studies Committee. 2021-present.
Alderson Event Planning Committee. 2022-2023.
Merit Review Committee – Service. 2021-2022.
Tenure-Track Assistant/Associate Professor in Movement and Cognitive Rehabilitation Science Search Committee. 2021-2022.
Subvention Committee. 2020-2021.

College Service

University of Texas at Austin

Dean's Consultative Committee for Kinesiology and Health Education Chair Selection. 2023-2024.
Dean's Distinguished Early Career Scholar Awards Committee. 2023-2024.
Whole Communities Whole Health Faculty Search Committee. 2020-2021.

Local Service

University of Texas at Austin

"Personalized noninvasive brain stimulation for recovery of hand function after stroke." Lecture presented at Warm Springs Rehabilitation Hospital Therapy Staff Lunch and Learn in Kyle, TX, 2024.

"Personalized noninvasive brain stimulation for recovery of hand function after stroke." Lecture presented at Texas NeuroRehab Center Therapy Staff Lunch and Learn in Austin, TX. 2023.

"Personalized noninvasive brain stimulation for recovery of hand function after stroke." Lecture presented at Baylor Scott and White Institute for Rehabilitation Therapy Staff Inservice in Lakeway, TX. 2022.

"Personalized noninvasive brain stimulation for recovery of hand function after stroke." Lecture presented at Brainwaves Brain Injury Support Group in Lakeway, TX. 2022.

"Personalized noninvasive brain stimulation for recovery of hand function after stroke." Lecture presented at Central Austin Stroke Support Group in Austin, TX. 2022.

Professional Service

Ad-hoc manuscript reviewer

Brain Stimulation, Cerebral Cortex, Clinical Neurophysiology, eNeuro, Human Movement Sciences, Journal of the American Medical Association (JAMA), Journal of Motor Behavior, Journal of Neuroscience, Journal of Neuroscience Methods, Journal of Physiology, Medicine & Science in Sports and Exercise, Nature Communications, Nature Neuroscience, Nature Human Behavior, NeuroImage, Neuromodulation: Technology at the Neural Interface, Neurorehabilitation and Neural Repair, Scientific Reports, IEEE Transactions in Neurorehabilitation and Rehabilitation Engineering

Ad-hoc grant reviewer

Fonds de la Recherche Scientifique (FNRS) Doctoral/PhD Research Fellow Application, NIH Motor Function Speech and Rehabilitation Study Section Early Career Reviewer