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1. ACADEMIC APPOINTMENTS

University of Rhode Island (URI) Acting Chair, Department of Biomedical Engineering	Kingston, RI July 2026 – Present
University of Rhode Island (URI) Program Director, Biomedical Engineering	Kingston, RI June 2025 – June 2026
University of Rhode Island (URI) Associate Professor of Biomedical Engineering	Kingston, RI July 2022 – Present
University of Rhode Island (URI) Assistant Professor of Biomedical Engineering, Director of Neural Processing and Control Lab (NeuralPC Lab)	Kingston, RI Aug 2016 – June 2022
University of California at San Francisco (USCF) Postdoctoral Researcher	San Francisco, CA June 2015 – Aug 2016

2. EDUCATION

Old Dominion University of Virginia Ph.D. Biomedical Engineering	Norfolk, VA Aug 2012 – May 2015
Iran University of Science and Technology M.Sc. Biomedical Engineering	Tehran, Iran Oct 2008 – Oct 2011
Ferdowsi University of Mashad B.Sc. Electrical Engineering	Mashad, Iran Oct 2003 – Sep 2008

3. FUNDING ACTIVITIES

Highlights: Recipient of \$4,282,082 funds, including five NSF awards as PI (totaling, \$3,602,082), three NSF awards as co-PI (my portion: \$480,000), and one internal grant (totaling, \$200,000) since joined URI.

External Funding:

- **[Funded]** Principal Investigator, “R01: Developing a Deep Multimodal Immersive Framework for Cortical Motor Entrainment of Rhythmic Audio-Visual Stimuli”, National Institutes of Health; \$1,015,000; July 2026-June 2029, Effort 70%.
- **[Funded]** Principal Investigator, “Integrated Framework for Recording and Decoding Multimodal Neural Associations of Visual Hallucinations and Motor Functions in Parkinson's Disease”, National Science Foundation; \$573,605; Sept 2024-Aug 2027, Effort 100%.
- **[Funded]** Principal Investigator, “Collaborative Research: HCC: Small: Graph-Centric Exploration of Nonlinear Neural Dynamics in Visuospatial-Motor Functions during Immersive Human-Computer Interactions”, National Science Foundation; \$600,000; Oct 2024-Sept 2027, Effort 100%.
- **[Funded]** Principal Investigator, “NCS-FO: SOUND: Understanding the Functional Neural Dynamics Underpinning Auditory Processing Dysfunctions through a Multiscale Recording-Stimulation Framework”, National Science Foundation; \$609,602; Oct 2020-Mar 2025, Effort 100%.
- **[Funded]** Principal Investigator, “CHS: Small: A Graph-Based Data Fusion Framework Towards Guiding A Hybrid Brain-Computer Interface”, National Science Foundation; \$500,000; Oct 2020-Jan 2025, Effort 100%.
- **[Funded]** Principal Investigator, “A Hybrid Brain-Computer Interface for Long-Term Use by Persons with Severe Motor Deficit: Towards Development of Personalized Algorithms”, National Science Foundation; \$303,875; Aug 2019-July 2022, Effort 100%.
- **[Funded]** Co-Principal Investigator (PI: Kunal Mankodiya), “EAGER: Towards a multimodal smart textile medical monitoring system for Neonatal ICUs”, National Science Foundation; \$331,998 (my portion \$90,000); Oct 2021-Sept 2024, Effort 30%.
- **[Funded]** Co-Principal Investigator (PI: Reza Abiri), “An Adaptive Closed-Loop Robotic Exoskeleton for Upper Extremity Motor Rehabilitation”, National Science Foundation; \$467,000 (my portion \$160,000); Sept 2023-Aug 2026, Effort 25%.
- **[Funded]** Co-Principal Investigator (PI: Reza Abiri), “Collaborative Research: Small: Immersive Multimodal Plan-to-Grasp Neural Decoders: Integrating Deep Graph-based and Adaptive Shared Control Theories,” National Institutes of Health; \$597,859 (my portion \$230,000); Sept 2026-Aug 2029, Effort 30%.
- **[Pending]** Co-Principal Investigator, “Collaborative Research: iGRASP: Closing the Sensorimotor Loop through an Intelligent and Collaborative Mind-Machine-Motor Framework”, National Science Foundation; \$798,523 (my portion \$230,000); July 2026-May 2029, Effort 30%.
- **[Rejected]** Principal Investigator, “A Multimodal Immersive Framework for Causal Analysis and Robust Deep Representations of Neural Dynamics in Visual Hallucinations”, National Institutes of Health; \$621,115; Jan 2025-Dec 2027, Effort 100%.
- **[Rejected]** Co-Principal Investigator (URI Lead PI with Lawrence Larson, the Brown lead PI), “NSF Center for Engineering the Nervous System (CENSE)”, National Science Foundation; \$25M.
- **[Rejected]** Principal Investigator, “CAREER: An Integrative Framework to Understand Nonlinear Cognitive-Motor Neural Dynamics of Parkinson's Disease: A Multimodal Virtual

- Reality-based Interface*", National Science Foundation; \$588,567; Sept 2022-Aug 2027, Effort 100%.
- **[Rejected]** Co-Principal Investigator (PI: Kunal Mankodiya), "*SCH: CUTE: Comfortable, Ultra-soft Textile Electronics for Reliable Medical Monitoring in Neonatal ICU*", National Science Foundation; \$925,040; June 2021-May 2025, Effort 25%.
 - **[Rejected]** Principal Investigator, "*Integrative Characterization of Neural Underpinning Visual Perception in Early Psychosis*", National Institute of Health; \$449,820; July 2020-June 2022, Effort 100%.
 - **[Rejected]** Co-Principal Investigator (PI: Ming Shao), "*Ill: Small: Robust Multi-view Sequence Modeling for Incomplete and Weakly Synchronized Multimodal Data*", National Science Foundations; \$497,294; Sept 2020-Aug 2023, Effort 100%.
 - **[Rejected]** Co-Principal Investigator (PI: Kunal Mankodiya), "*SCH: CUTE: Soft E-Textiles For Clinically-Reliable Medical Monitoring in Fog-Connected Neonatal Care*", National Science Foundations; \$1,199,938; July 2020-June 2024, Effort 25%.
 - **[Rejected]** Principal Investigator, "*Multimodal Recording-Decoding Framework to Identify Functional Neural Associations of Visual Hallucinations with Motor Symptoms in Parkinson's Disease*", National Science Foundations; \$307,929; June 2020-May 2023, Effort 100%.
 - **[Rejected]** Principal Investigator, "*CAREER: Multimodal Framework for Understanding Integrative Neural Dynamics of Parkinson's Disease*", National Science Foundation; \$537,868; May 2020-April 2025, Effort 100%.
 - **[Rejected]** Principal Investigator, "*NCS-FO: Understanding Auditory Processing through a Multimodal Neural Recording-Stimulating Framework*", National Science Foundation; \$756,904; Sept 2019-Aug 2022, Effort 90%.
 - **[Rejected]** Principal Investigator, "*Fusing Brain and Body Information to Quantify Motor Signatures of Parkinson's Disease*", National Science Foundation; \$299,955; Jan 2020-Dec 2022, Effort 70%.
 - **[Rejected]** Principal Investigator, "*CHS: Small: Collaborative Research: A Hybrid Brain-Computer Interface guided by a Graph-Theoretical Multimodal Data Fusion Framework*", National Science Foundation; \$299,036; May 2019-April 2022, Effort 100%.
 - **[Rejected]** Principal Investigator, "*CAREER: Personalized Multimodal Brain-Computer Interfaces for Long-Term Use by Patients with Severe Motor Deficit*", National Science Foundation; \$535,845; May 2019-April 2024, Effort 100%.
 - **[Rejected]** Principal Investigator, "*NCS-FO: Probing Auditory Sensory Network through Multimodal Neural Recording-Stimulating Platform*", National Science Foundation; \$995,668; Jan 2019-Dec 2021, Effort 100%.
 - **[Rejected]** Principal Investigator, "*Towards Multimodal Brain-Computer Interfaces for Communication*", National Institute of Health; \$427,130; May 2019-April 2022, Effort 100%.
 - **[Rejected]** Principal Investigator, "*Integrative Characterization of Neural Underpinning Visual Perception in Early Psychosis*", National Institute of Health; \$441,145; May 2019-April 2021, Effort 100%.
 - **[Rejected]** Principal Investigator, "*Developing Multimodal Brain-Computer Interfaces for the Long-Term Use of Patients with Severe Motor Deficit: Toward Development of*

Personalized Algorithms", National Science Foundation; \$329,701; May 2018-April 2021, Effort 100%.

- **[Rejected]** Principal Investigator, "*CRII: III/SCH: Translational Algorithm: Towards a Comprehensive Sensory-based Multimodal Electro-Vascular Brain Monitoring Framework*", National Science Foundation; \$174,633; May 2018-April 2020, Effort 100%.

Internal Funding:

- **[Funded]** Principal Investigator, "*Characterization of Brain Activity in Patients with Amyotrophic Lateral Sclerosis*", Rhode Island IDeA Network for Excellence in Biomedical Research; \$200,000; May 2017-April 2019, Effort 100%.
- **[Rejected]** Co-Principal Investigator (PIs: Vanessa Harwood and Alisa Baron), "*Neurobiological markers of language in adolescents with moderate to severe Autism Spectrum Disorder (ASD) and the Broad Autism Phenotype*", Simons Foundation Autism Research Initiative (SFARI), 2022 Human Cognitive and Behavioral Science; \$300,000; Sept 2022-Aug 2024.
- **[Rejected]** Co-Principal Investigator (PIs: Vanessa Harwood and Alisa Baron), "*Neurobiological Markers of Language in Children with Moderate to Severe Autism (ASD) and the Broad Autism Phenotype*", Simons Foundation Autism Research Initiative (SFARI), 2021 Human Cognitive and Behavioral Science Grant; \$750,000; Aug 2021-Aug 2024.
- **[Rejected]** Co-Principal Investigator (PI: Reza Seyedsadjadi), "*Characterization of neuropsychological deficits in adult patients with nephropathic cystinosis using EEG-based neuroimaging techniques*", Cystinosis Research Foundation; \$100,098; Submitted in Oct 2020, Effort 100%.
- **[Rejected]** Principal Investigator, "*Multidisciplinary Brain-Imaging Teaching (MBIT) Laboratory: A Grand Challenge*", URI Champlin Foundation; \$149,500; Sept 2020; Lead PI [entered the second round].
- **[Rejected]** Principal Investigator, "*Multidisciplinary Brain-Imaging Teaching (MBIT) Laboratory: A Grand Challenge*", URI Champlin Foundation; \$145,000; July 2019; Lead PI [entered the second round].
- **[Rejected]** Principal Investigator, "*Development of EEG-based Biomarkers for Attention*", Rhode Island Commerce; \$49,879; May 2019-April 2020; Lead PI.
- **[Rejected]** Principal Investigator, "*Multimodal Human-Computer Interaction (mHCI) Laboratory*", URI Champlin Foundation; \$120,000; June 2018; Lead PI [entered the second round].
- **[Rejected]** Principal Investigator, "*Developing a Hybrid Brain-Computer Interface System*", Rhode Island Medical Research Grant; \$25,000; June 2017-May 2018.

4. PUBLICATIONS

Highlights: Since my arrival at URI in Fall 2016, I have achieved substantial scholarly milestones. Notably, I have authored 59 journal papers and conference papers, including 41 peer-reviewed papers in esteemed journals and conferences, along with one book chapter. Among our published works, 24 are journal papers recognized in reputable publications such as *Engineering Applications of Artificial Intelligence* [IF: 9.0], *Computers in Biology and Medicine*

[IF: 7.7], Cells [IF: 6.0], IEEE Transactions on Neural Systems and Rehabilitation Engineering [IF: 6.6], Journal of Neural Engineering [IF: 4.0], IEEE Transactions on Biomedical Engineering [IF: 4.5], IEEE Sensors [IF: 4.5], and Frontiers in Neuroscience [IF: 4.0]. We have presented 17 peer-reviewed conference papers at events such as the International IEEE/EMBS Conference on Neural Engineering and the International Conference of the IEEE/EMBC, along with 17 non-peer-reviewed conference papers and abstracts at events including the International Brain-Computer Interface Meeting, Asilomar Conference on Signals, Systems, and Computers, Congress of Neurological Surgeons, International Neuroergonomics Conference, and Society for Neuroscience.

Note: First bold authors are my graduate students/postdocs under my supervision.

Note: In the BME/Neural engineering field, an impact factor (IF) above 3.0 is considered to be a competitive, reputable journal.

4.1 BOOK CHAPTER

Y. Shahriari*, W. Besio, S. I. Hosni, A. Zisk, S. B. Borgheai, R. J. Deligani, J. McLinden. Electroencephalography. Springer Nature Book of Neural Interface Engineering: Linking the Physical World and the Nervous System; 2019 (*correspondence author).

4.2 REFEREED JOURNALS

PUBLISHED

29. **J. McLinden**, N. Rahimi, K.M. Spencer, M.V. Wout, M. Shao, S. Hosni, B. Adeli, A. Cerullo, P. Pandey, **Y. Shahriari***, Multimodal Analysis of Hemodynamic and Electrocortical Causal Interactions During Auditory Processing. Journal of Neural Engineering, 2026; 23(3):036006 (17 pp) (*correspondence author). **[IF: 4.0]**
28. **S.B. Borgheai**, B.E. Achorn, A.H. Zisk, S.M. Hosni, K.E.G. Richter, F.S. Menniti*, **Y. Shahriari***, A Comprehensive Overview of Neurophysiological Correlates of Cognitive Impairment in Amyotrophic Lateral Sclerosis. Cells, 2026; 15(1):37 (25 pp). (*correspondence author). **[IF: 6.0]**
27. S. Ghafoori; A. Cetera; A. Rabiee; M. H. Farhadi; R. Singh; M. Furmanek; R. Abiri; **Y. Shahriari**. Cross-Frequency Bispectral EEG Analysis of Reach-to-Grasp Planning and Execution. Computers in Biology and Medicine, 2026; 213:111791 (14 pp). **[IF: 7.7]**
26. A. Cetera, S. Ghafoori, A. Rabiee, M. H. Farhadi, **Y. Shahriari** and R. Abiri. Macroscopic EEG Reveals Discriminative Low-Frequency Oscillations in Plan-to-Grasp Visuomotor Tasks. Accepted to Journal of Neural Engineering, 2026. **[IF: 4.0]**
25. **P. Pandey**, J. McLinden, N. Rahimi, C. Kumar, M. Shao, S. Ostadabbas, K.M. Spencer, **Y. Shahriari***. fNIRSNET: A Multi-view Spatio-Temporal Convolutional Neural Network Fusion for fNIRS-based Auditory Event Classification. Engineering Applications of Artificial Intelligence, 2024; 137:109256 (20 pp) (*correspondence author). **[IF: 9.0]**
24. N. Rahimi, C. Kumar, J. McLinden, S. Hosni, B. Borgheai, **Y. Shahriari**, M. Shao. Topology-aware Multimodal Fusion for Neural Dynamics Representation Learning and Classification. IEEE Sensors, 2024; 24(13), 21062-21073. **[IF: 4.5]**

23. **B. Borgheai**, A. H. Zisk, J. McLinden, **Y. Shahriari***. Multimodal Pre-screening Can Predict BCI Performance Variability: A Novel Subject-specific Experimental Scheme. *Computers in biology and Medicine Journal*, 2024; 168:107658 (15 pp) (*correspondence author). **[IF: 7.7]**
22. **J. McLinden**, N. Rahimi, C. Kumar, D.J. Krusienski, M. Shao, K. M. Spencer, **Y. Shahriari***. Investigation of electro-vascular phase-amplitude coupling during an auditory task. *Computers in biology and Medicine Journal*, 2024; 169:107902 (10 pp) (*correspondence author). **[IF: 7.7]**
21. **J. McLinden**, B. Borgheai, S. Hosni, C. Kumar, N. Rahimi, M. Shao, K. M. Spencer, **Y. Shahriari***. Individual-Specific Characterization of Event-Related Hemodynamic Responses during an Auditory Task: An Exploratory Study. *Journal of Behavioral Brain Research*, 2023; 436:114074 (9 pp) (*correspondence author). **[IF: 2.9]**
20. S. Zhu, S. I. Hosni S. I, X. Huang, M. Wan, S. B. Borgheai, J. McLinden, **Y. Shahriari**, S. Ostadabbas. A dynamical graph-based feature extraction approach to enhance mental task classification in brain-computer interfaces. *Computers in Biology and Medicine*. 2023 1;153:106498 (9 pp). **[IF: 7.7]**
19. **S. I. Hosni**, B. Borgheai, J. McLinden, S. Zhu, X. Huang, S. Ostadabbas, **Y. Shahriari***. A Graph-Based Nonlinear Dynamic Characterization of Motor Imagery Toward an Enhanced Hybrid BCI. *Neuroinformatics Journal*, 2022; 4:1169-89 (21 pp) (*correspondence author). **[IF: 2.9]**
18. G. Cay, V. Ravichandran, M.J. Saikia, L. Hoffman, A. Laptook, J. Padbury, A.L. Salisbury, A. Gitelson-Kahn, K. Venkatasubramanian, **Y. Shahriari**, and K. Mankodiya, 2022. An e-textile respiration sensing system for NICU monitoring: design and validation. *Journal of Signal Processing Systems*, pp.1-15. **[IF: 1.7]**
17. **A. H. Zisk**, B. Borgheai, J. McLinden, R. Jafari, **Y. Shahriari***. Improving longitudinal P300-BCI performance for people with ALS using a data augmentation and jitter correction approach. *Brain-Computer Interfaces Journal*, 2022; (18 pp) (*correspondence author). **[IF: 2.6]**
16. **R. J. Deligani**, B. Borgheai, J. McLinden, **Y. Shahriari***. Multimodal fusion of EEG-fNIRS: A mutual information-based hybrid classification framework. *Journal of Biomedical Optics Express*, 2021; 12(3) (16 pp) (*correspondence author). **[IF: 3.2]**
15. **J. McLinden**, R. J. Deligani, M. R. Abtahi, U. Akbar, K. Mankodiya, **Y. Shahriari***. Disruptions of Cortico-Kinematic Interactions in Parkinson's Disease. *Journal of Behavioral Brain Research*, 2021; 404:113153 (9 pp) (*correspondence author). **[IF: 2.9]** (*correspondence author).
14. **B. Borgheai**, J. McLinden, K. Mankodiya, **Y. Shahriari***. Frontal Functional Network Disruptions Associated with Amyotrophic Lateral Sclerosis: An fNIRS-based Minimum Spanning Tree Analysis. *Frontiers in neuroscience*, 2020; 14:1376 (17 pp) (*correspondence author). **[IF: 4.0]**
13. **S. M. Hosni**, S. B. Borgheai, J. McLinden, **Y. Shahriari***. An fNIRS-Based Motor Imagery BCI for ALS: A Subject-Specific Data-Driven Approach. *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, 2020, 8(12): 3063-3073 (*correspondence author). **[IF: 6.6]**
12. **A. H. Zisk**, S. B. Borgheai, J. McLinden, S. I. Hosni, R. J. Deligani, **Y. Shahriari***. Latency Jitter and its Correlates in People with Amyotrophic Lateral Sclerosis. *Clinical Neurophysiology Journal*, 2020, 132(2) (11 pp) (*correspondence author). **[IF: 3.4]**

11. **R. J. Deligani**, S. I. Hosni, S. B. Borgheai, J. McLinden, A. H. Zisk, K. Mankodiya, **Y. Shahriari***. Electrical and Hemodynamic Neural Functions in People with ALS: An EEG-fNIRS Resting-State Study. *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, 2020, 28(12) (11 pp) (*correspondence author). **[IF: 6.6]**
10. **S. B. Borgheai**, S. I. Hosni, R. J. Deligani, A. Zisk, J. McLinden, M. Abtahi, K. Mankodiya, **Y. Shahriari***. Enhancing Communication for People in Late-Stage ALS Using an fNIRS-Based BCI System. *IEEE Transactions on Neural Systems and Rehabilitation Engineering*; 2020; 28(5) (10 pp) (*correspondence author). **[IF: 6.6]**
9. M. Abtahi, S. B. Borgheai, R. J. Deligani, N. Constant, R. Diouf, **Y. Shahriari**, K. Mankodiya. Merging fNIRS-EEG Brain Monitoring and Body Motion Capture to Distinguish Parkinson's Disease. *IEEE Transactions on Neural Systems and Rehabilitation Engineering*; 2020; doi: 10.1109/TNSRE.2020.2987888 (9 pp). **[IF: 6.6]**
8. **B. Borgheai**, **R. J. Deligani**, J. McLinden, A. Zisk, S. I. Hosni, M. Abtahi, K. Mankodiya, **Y. Shahriari***. Multimodal Exploration of Non-motor Neural Functions in ALS Patients Using Simultaneous EEG-fNIRS Recording. *Journal of Neural Engineering*; 2019; 16:066036 (15 pp) (co-first authors, *correspondence author). **[IF: 4.0]**
7. **S. I. Hosni**, R. J. Deligani, A. Zisk, J. McLinden, S. B. Borgheai, **Y. Shahriari***. An Exploration of Neural Dynamics of Motor Imagery for People with Amyotrophic Lateral Sclerosis. *Journal of Neural Engineering*; 2019; 17:016005 (15 pp) (*correspondence author). **[IF: 4.0]**
6. **Y. Shahriari**, T. M. Vaughan, L. M. McCane, B. Z. Allison, J. R. Wolpaw, D. J. Krusienski. An Exploration of BCI Performance Variations in People with Amyotrophic Lateral Sclerosis using Longitudinal EEG Data. *Journal of Neural Engineering*, 2019; 16: 056031 (9 pp). **[IF: 4.0]**
5. M. Malekmohammadi*, **Y. Shahriari***, N. AuYong, A. O'Keeffe, Y. Bordelon, X. Hu, N. Pouratian. Pallidal stimulation in Parkinson disease differentially modulates local and network β activity. *Journal of Neural Engineering*, 2018; 15(5): 056016 (12 pp) (*co-first authors). **[IF: 4.0]**
4. **Y. Shahriari**, R. Fidler, M. M. Pelter, Y. Bai, A. Villaroman, X. Hu. Electrocardiogram Signal Quality Assessment Based on Structural Image Similarity Metric. *IEEE Transactions on Biomedical Engineering*, 2017; 65(4): 745-753. **[IF: 4.5]**
3. Bai, D. Do, Q. Ding, J. A. Palacios, **Y. Shahriari**, M. M. Pelter, N. Boyle, R. Fidler, X. Hu. Is the Sequence of SuperAlarm Triggers More Predictive Than Sequence of the Currently Utilized Patient Monitor Alarms? *IEEE Transactions on Biomedical Engineering*, 2016; 64(5):1023-1032. **[IF: 4.5]**
2. **Y. Shahriari**, D. J. Krusienski, Y. S. Dadi, M. Seo, H. S. Shin, J. H. Choi. Impaired Auditory Evoked Potentials and Oscillations in Frontal and Auditory Cortex of A Schizophrenia Mouse Model. *The World Journal of Biological Psychiatry*, 2016; 17(6): 439-448. **[IF: 3.8]**
1. **Y. Shahriari**, A. Erfanian. Improving the Performance of P300-based Brain-Computer Interface Through Subspace-based Filtering. *Neurocomputing journal*, 2013; 121:434-441. **[IF: 6.7]**

+ UNDER REVIEW OR PREPARATION

1. **B. Adeli**, J. McLinden, A. Cerullo, P. Pandey, M. V. Wout-Frank, K. M. Spencer, and **Y. Shahriari***. Auditory Neural Synchronization and Repetition Dynamics Along the Schizotypy Continuum: An EEG Study. Under review by the Journal of IEEE Transactions on Neural Systems & Rehabilitation Engineering (*correspondence author). **[IF: 6.6]**
2. **P. Pandey**, B. Adeli, S. Zhu, J. McLinden, S. B. Borgheai, S. Ostadabbas, **Y. Shahriari***. Dissecting EEGNet: The Role of Structural Hyperparameters in EEG Classification. Under the 2nd review by the Computer Methods and Programs in Biomedicine (*correspondence author). **[IF: 6.4]**
3. **A. Cerullo**, J. McLinden, B. Adeli, **Y. Shahriari***. Neural Entrainment of the Motor System during Action Observation under Rhythmic Auditory-Visual Stimulation (RAVS). To be submitted. To be the Journal of Neural Engineering (*correspondence author). **[IF: 4.0]**
4. **J. Mayor-Torres**🌀, **P. Pandey**🌀, J. McLinden, B. Adeli, M. Shao, and **Y. Shahriari***. EEG–fNIRS multimodal fusion for improving Deep Learning decoding: Applications, Challenges, and New Opportunities--A Systematic Review. To be submitted to Computers in Biology and Medicine (🌀co-first authors, *correspondence author). **[IF: 7.7]**

4.3 CONFERENCES

PUBLISHED/ACCEPTED

42. **A. Cerullo**, S. Bijari, B. Adeli, S. Moezzi, A. Syrgak, S. Ostadabbas, **Y. Shahriari**, Multiscale EEG Analysis of Age-Related Changes in Visual-Spatial Motor Processing during 2D and 3D Tasks. IEEE-EMBS International Conference on Body Sensor Networks, Portugal, 2026.
41. **B. Adeli**, J. McLinden, P. Pandey, M. Shao, **Y. Shahriari**, Toward Improving fNIRS Classification: A Study on Activation Functions in Deep Neural Architectures. In 2025 IEEE EMBS Conference on Neural Engineering (NER), San Diego, USA, 2025.
40. **B. Adeli**, M. McLinden, P. Pandey, M. Shao, **Y. Shahriari**, AbsoluteNet: A Deep Learning Neural Network to Classify Cerebral Hemodynamic Responses of Auditory Processing. 2025 IEEE International Workshop on Machine Learning for Signal Processing (MLSP), Istanbul, Turkey, 2025.
39. **J. McLinden**, B. Adeli, A. Cerullo, M. Shao, K.M. Spencer, M. van't Wout-Frank, **Y. Shahriari**, Multimodal Multivariate Granger Causality Between EEG and fNIRS during an Auditory Task. 11th International Brain-Computer Interface Meeting, Banff, Canada, 2025.
38. S. Veeturi, V. Racichandran, A. Cerullo, S.Chomal, **Y. Shahriari**, S. Carreiro, K. Venkatasubramanian, K. Mankodiya, D. Solanki, "Evaluationg Dry Electrodes and Bioinsrumentation for Wearable Arm ECG Acquisition", E-Textiles Conference, 2024.

37. M. Norouzi, M. Z. Amirani, **Y. Shahriari**, and R. Abiri, "Precision Enhancement in Sustained Visual Attention Training Platforms: Offline EEG Signal Analysis for Classifier Fine-Tuning," IEEE EMBC conference, 2024.
36. Cetera, A. Rabiee, S. Ghafoori, **Y. Shahriari**, and R. Abiri, "Classification of Emerging Neural Activity from Planning to Grasp Execution using a Novel EEG-Based BCI Platform," IEEE EMBC conference, 2024.
35. S. Ghafoori, A. Rabiee, A. Cetera, **Y. Shahriari**, and R. Abiri, "Bispectrum Analysis of Noninvasive EEG Signals Discriminates Complex and Natural Grasp Types," IEEE EMBC conference, 2024.
34. A. Rabiee, S. Ghafoori, A. Cetera, **Y. Shahriari**, and R. Abiri, "Wavelet Analysis of Noninvasive EEG Signals Discriminates Complex and Natural Grasp Types," IEEE EMBC conference, 2024.
33. **J. McLinden**, P. Pandey, A. Cerullo¹, M. van 't Wout-Frank, K.M. Spencer, **Y. Shahriari**. EEG-fNIRS Causal Interactions during Auditory Processing. 2nd Neuroscience of the Everyday World Conference, 2024.
32. **J. McLinden**, P. Pandey, A. Cerullo, N. Rahimi, C. Kumar, M. Shao, K.M. Spencer, M. van 't Wout-Frank, **Y. Shahriari**. Causal interactions between electro-cortical oscillations and hemodynamics during an auditory task. 5th International Neuroergonomics Conference, 2024.
31. **J. McLinden**, D.E. Gemoets, D. Hahn, J. Brangaccio, **Y. Shahriari**, J.R. Wolpaw, J.J.S. Norton. Automating feedback in H-reflex operant conditioning studies: Feasibility and first steps. 11th International IEEE EMBS Conference on Neural Engineering, 2023.
30. **J. McLinden**, S.B. Borgheai, C. Kumar, N. Rahimi, M. Shao, K.M. Spencer, **Y. Shahriari**. Phase-amplitude coupling between EEG cortical oscillations and respiration: An exploratory study. 11th International IEEE EMBS Conference on Neural Engineering, 2023.
29. **J. McLinden**, C. Kumar, N. Rahimi, M. Shao, K.M. Spencer, **Y. Shahriari**. Electrovascular phase-amplitude coupling during an auditory task. 10th International Brain-Computer Interface Meeting, 2023.
28. **S.I. Hosni**, J. McLinden, S.B. Borgheai, S. Zhu, S. Ostadabbas, **Y. Shahriari**. Graph-based modeling of EEG: insights on neural data analytics for BCI applications. 10th International Brain-Computer Interface Meeting, 2023.
27. C. Kumar, J.P. Donohue, R. Gonjari, N. Rahimi, J. McLinden, **Y. Shahriari**, M. Shao. Adversary on Multimodal BCI-based Classification. 11th International IEEE EMBS Conference on Neural Engineering, 2023.
26. **J. McIntyre**, J. McLinden, S.B. Borgheai, **Y. Shahriari**. Exploratory fNIRS Assessment of Cortical Activation during a Novel Virtual Reality Object Orientation Memory Task. 11th International IEEE EMBS Conference on Neural Engineering, 2023.
25. **B. Borgheai**, A. Zisk, J. McLinden, J. McIntyre, **Y. Shahriari**. Identifying Cognitive Factors Contributing to BCI Performance Variability: A multimodal Study. Society for Neuroscience, 2022.
24. **S. I Hosni**, J. McLinden, S. B. Borgheai, S. Zhu, S. Ostadabbas, **Y. Shahriari**, Graph-based Recurrence Quantification Analysis of EEG Spectral Dynamics for Motor Imagery-based BCIs. 43rd Annual International Conference of the IEEE/EMBC Conference, 2021.

23. S. Zhu, S., S. I Hosni, J. McLinden, S. B. Borgheai, **Y. Shahriari**, S. Ostadabbas. A Graph-based Feature Extraction Algorithm Towards a Robust Data Fusion Framework for Brain-Computer Interfaces. 43rd Annual International Conference of the IEEE/EMBC Conference, 2021.
22. **S. I Hosni**, S. B. Borgheai, J. McLinden, S. Zhu, S. Ostadabbas, **Y. Shahriari**. A Graph-based dynamical characterization and inference in hybrid BCIs. Asilomar Conference on Signals, Systems, and Computers, 2021.
21. **S. B. Borgheai**, R. J. Deligani, J. McLindean, M. Abtahi, S. Ostadabbas, K. Mankodiya, **Y. Shahriari**. Multimodal Evaluation of Mental Workload Using a Hybrid EEG-fNIRS Brain-Computer Interface System. 9th International IEEE/EMBS Conference on Neural Engineering, 2019; 973-976.
20. **R. J. Deligani**, S. Ismail Hosni, T. M. Vaughan, L. M. McCane, D. J. Zeitlin, D. J. McFarland, D. J. Krusienski, **Y. Shahriari**. Neural Alterations during Use of a P300-based BCI by Individuals with Amyotrophic Lateral Sclerosis. 9th International IEEE/EMBS Conference on Neural Engineering, 2019; 899-902.
19. **S. B. Borgheai**, M. Abtahi, J. McLindean, K. Mankodiya, **Y. Shahriari**. Towards a Single Trial fNIRS-based Brain-Computer Interface for Communication. 9th International IEEE/EMBS Conference on Neural Engineering, 2019; 1030-1033.
18. **R. J. Deligani**, C. S. Carmack, S.M. Heckman, L. M. McCane, D. J. McFarland, T. M. Vaughan, J. R. Wolpaw, D. J. Zeitlin, D. J. Krusienski, **Y. Shahriari**. Alterations in Connectivity During Use of a P300-based BCI by Individuals With Amyotrophic Lateral Sclerosis. 7th Brain-Computer Interface Meeting, 2018.
17. M. Abtahi, **Y. Shahriari**, M. J. Saikia, G. Cay, U. Akbar, K. Mankodiya. EEG-fNIRS Combined Neuroimaging Study on PD Patients Performing UPDRS Motor Tasks. *Neurology* 92, P5. 8-020.
16. N. Constant, U. Akbar, M. Abtahi, J. Gillinsky, **Y. Shahriari**, K. Mankodiya. E-textile Glove Monitoring Finger and Hand Motion. 16th International Conference on Wearable and Implantable Body Sensor Networks (BSN), 2019.
15. **S. B. Borgheai**, M. Abtahi, K. Mankodiya, **Y. Shahriari**. Towards a Single Trial fNIRS-based Brain-Computer Interface for Communication. 7th Brain-Computer Interface Meeting, 2018.
14. **S. I. Hosni**, W. Besio, **Y. Shahriari**. A Comparison Between Spatial Filtering Techniques Based on Conventional Methods and Tripolar Concentric Ring Electrodes. 7th Brain-Computer Interface Meeting, 2018.
13. **Y. Shahriari**, M. Malekmohammadi, A. O'Keeffe, X. Hu, N. Pouratian. Beta Oscillations during Pallidal Deep Brain Stimulation in Parkinson's Disease. Congress of Neurological Surgeons, 2017.
12. **Y. Shahriari**, M. Malekmohammadi, A. O'Keeffe, X. Hu, N. Pouratian. Global and Local Oscillatory Changes Associated with Pallidal Deep Brain Stimulation in Parkinson Disease. Society for Neuroscience, 2017.
11. S. M. Heckman, **Y. Shahriari**, T. M. Vaughan, D. M. Zeitlin, L. M. McCane, C. S. Carmack, J. R. Wolpaw, B. Z. Allison, D.J. Krusienski. Longitudinal EEG Correlates of BCI Performance Variations in People with Amyotrophic Lateral Sclerosis. Society for Neuroscience, 2017.

10. N. Pouratian, M. Malekmohammadi, **Y. Shahriari**, N. A. Young, X. Hu. Motor cortex pllidocortical desynchronization as therapeutic mechanisms of pallidal deep brain stimulation. The American Academy of Neurological Surgery, 2017.
9. **Y. Shahriari**, A. O'Keeffe, M. Malekmohammadi, X. Hu, N. Pouratian. The Effect of Deep Brain Stimulation on Pallido-Cortical Coherency Pattern of Parkinson's Disease. 6th Brain-Computer Interface Meeting, 2016.
8. **Y. Shahriari**, D. J. Krusienski, J. H. Choi. Frontal-Temporal Connectivity Dysfunction in a Mouse Model of Schizophrenia. 6th Brain-Computer Interface Meeting, 2016.
7. **Y. Shahriari**, Q. Ding, R. Fidler, et al. Perceptual Image Processing Based ECG Quality Assessment. Journal of Electrocardiology, 2016; 49(6):937.
6. **Y. Shahriari Y**, Q. Ding, R. Fidler, et al. 129: Poor ECG Signal Quality Associated with False Arrhythmia Alarms. Critical Care Medicine, 2015; 43(12):33-34.
5. **Y. Shahriari**, E. W. Sellers, L. M. McCane, T. M. Vaughan, D. J. Krusienski. Directional brain functional interaction analysis in patients with amyotrophic lateral sclerosis. 7th International IEEE/EMBS Conference on Neural Engineering, 2015; DOI: 10.1109/NER, 2015.7146788.
4. **Y. Shahriari**, S. Macdonald, Y. Surekha, J. H. Choi, D. J. Krusienski. Using Auditory Steady State Responses to Characterize Neural Connectivity in Mice Models of Schizophrenia. Society for Neuroscience, 2014
3. **Y. Shahriari**, T. M. Vaughan, D. E. Corda, D. Zeltin, J. R. Wolpaw, D. J. Krusienski. EEG Correlates of Performance During Long-Term Use of a P300 BCI by Individuals with Amyotrophic Lateral Sclerosis. Proceedings of 5th Brain-Computer Interface Meeting: Define the Future, 2013.
2. **Y. Shahriari**, A. Erfanian. A mutual information based channel selection scheme for P300-based brain-computer interface. In Neural Engineering (NER), 2011 5th International IEEE/EMBS Conference, 2011.
1. **Y. Shahriari**, A. Erfanian. An Improved P300 Based Brain-Computer Interface: Feature Selection Based Mutual Information. 18th International Conference on Biomedical Engineering, ICBME, 2011.

5. TEACHING

5.1 COURSE TAUGHT

University of Rhode Island

- Instructor: BME 181, **Biomedical Engineering Seminar I**, 1 credit (SP26) (28 enrolled). --2 sessions each approx. 50 min.
Session 1: 20 enrolled
Session 2: 8 enrolled
***Note:** BME 181 is a foundational course in the Biomedical Engineering curriculum that introduces first-year students to a broad range of biomedical engineering topics while emphasizing contemporary issues, ethical responsibilities, and global and societal perspectives. Through student-led seminars, students develop skills in literature review, scientific writing, and professional presentations. Course requirements include two seminar*

presentations, two scientific abstracts, a summary report covering three topics presented during the semester, and a course notebook. The instructor provides guidance on literature review, abstract preparation, and presentation skills. All assignments are graded according to the criteria outlined in the course syllabus. The course is typically offered in three to four sections of approximately 50 students each.

- Instructor: EGR 105, **Foundations of Engineering I**, 1 credit (FA25) (82 enrolled). --3 sessions each approx. 50 min.
Session 1: 33 enrolled
Session 2: 29 enrolled
Session 3: 20 enrolled
- Instructor: BME 181, **Biomedical Engineering Seminar I**, 1 credit (SP25) (39 enrolled). --2 sessions each approx. 50 min.
Session 1: 21 enrolled
Session 2: 18 enrolled
- Instructor: BME 181, **Biomedical Engineering Seminar I**, 1 credit (SP24) (39 enrolled). --2 sessions each approx. 50 min.
Session 1: 20 enrolled
Session 2: 19 enrolled
- Instructor: BME 473/ELE 573, **Brain Signal Processing and Applications**, 4 credit (FA23) (10 enrolled).
Note: *This course was proposed and developed by me and incorporated as an elective course in both the Biomedical Engineering undergraduate curriculum and the Electrical Engineering graduate curriculum.*
- Instructor: BME 485, **Biomedical Engineering Capstone Design II**, 2 credit (SP23) (38 enrolled).
- Instructor: BME 484, **Biomedical Engineering Capstone Design I**, 3 credit (FA22) (38 enrolled).
- Instructor: BME 485, **Biomedical Engineering Capstone Design II**, 2 credit (SP22) (31 enrolled).
- Instructor: BME 484, **Biomedical Engineering Capstone Design I**, 3 credit (FA21) (31 enrolled).
- Instructor: BME 281, **Biomedical Engineering Seminar II**, 1 credit (FA21) (46 enrolled). --3 sessions each approx. 50 min.
Session 1: 25 enrolled
Session 2: 21 enrolled
- Instructor: BME 485, **Biomedical Engineering Capstone Design II**, 2 credit (SP21) (31 enrolled).
- Instructor: BME 181, **Biomedical Engineering Seminar I**, 1 credit (SP21) (56 enrolled). --3 sessions each approx. 50 min.
Session 1: 19 enrolled
Session 2: 19 enrolled
Session 3: 17 enrolled
- Instructor: BME 484, **Biomedical Engineering Capstone Design I**, 3 credit (FA20) (31 enrolled).

- Instructor: BME 181, **Biomedical Engineering Seminar I**, 1 credit (SP20) (55 enrolled students)--3 sessions each approx. 50 min.
Session 1: 21 enrolled
Session 2: 14 enrolled
Session 3: 20 enrolled
- Instructor: ELE 594, **Brain Signal Processing and Applications**, 3 credits, (FA19) (7 enrolled students).
Note: This course was proposed and developed by me.
- Instructor: BME 181, **Biomedical Engineering Seminar I**, 1 credit (SP19) (49 enrolled students)--3 sessions each approx. 50 min.
Session 1: 19 enrolled
Session 2: 16 enrolled
Session 3: 14 enrolled
- Instructor: ELE 594, **Brain-Computer Interfaces**, 3 credits, (FA18) (8 enrolled students).
Note: This course was proposed and developed by me.
- Instructor: BME 181, **Biomedical Engineering Seminar I**, 1 credit (SP18) (52 enrolled students)--4 sessions each approx. 50 min.
Session 1: 18 enrolled
Session 2: 11 enrolled
Session 3: 6 enrolled
Session 4: 17 enrolled
- Instructor: ELE 594, **Brain-Computer Interfaces**, 3 credits, (FA17) (7 enrolled students).
Note: This course has been proposed and developed by me.
- Instructor: BME 181, **Biomedical Engineering Seminar I**, 1 credit (SP17) (65 enrolled students)--4 sessions each approx. 50 min.
Session 1: 19 enrolled
Session 2: 19 enrolled
Session 3: 18 enrolled
Session 4: 9 enrolled
- Instructor: BME 461/ELE 561 level, **Physiological modeling and control**, 3 credits (FA16) (33 enrolled students).

5.2 OTHER TEACHING

- Guest Lecturer: BME 468/ELE 568, "fNIRS Fundamentals & its Mergers", URI (SP24).
- Guest Lecturer: "Fundamentals of fNIRS and its Application in Neurotechnology", BCI & Neurotechnology Masterclasses in RI and MA (SU22).
- Guest Lecturer: BME 468/ELE 568, "Fundamentals of fNIRS and its Application in Neurotechnology", URI (SP22).
- Guest Lecturer: Focus summer course at National Center for Adaptive Neuroethologies (NCAN), "Fundamentals of fNIRS and its Applications in Neurotechnology", (SU21).
- Mentor: Neuromatch Academy, (SU20).
- Guest Lecturer: BME 468/ELE 568, "Characterization of Invasive and Non-Invasive Neural Responses in Patients with Neurological Impairments", URI (SP20).

- Guest Lecturer: BME 468/ELE 568, "Characterization of Invasive and Non-Invasive Neural Responses in Patients with Neurological Impairments", URI (SP19).
- Guest Lecturer: BME 468/ELE 568, "Brain-Computer Interface for Assistive Technology", URI (SP17).
- Guest Lecturer: BME 468/ELE 568, "Characterization of Brain Activity in Patients with Neurological Impairment", URI (SP17).
- Experimental Learning Project: Interdisciplinary collaborative projects with Electro Standard Laboratories (ESL) Company, "Developing Closed Loop Robotic Hand for the amputees", URI (SU17-).
- Guest Lecturer: BME 402/502, "Basics of Signals I", ODU (SP15).
- Guest Lecturer: BME 402/502, "Basics of Signals II", ODU (SP15).
- Guest Lecturer: BME 402/502, "Brain-Computer Interface", ODU (SP15).

6. INVITED LECTURES, KYNOTE TALKS, & SEMINARS

- **Invited Speaker:** Lightning Talks and Networking Event on AI at the Institute for Artificial Intelligence and Computational Research, "*Multi-view Convolutional Neural Network for Neuroimaging Data Fusion*", University of Rhode Island, March 2026.
- **Keynote Speaker:** BCI & Neurotechnology Masterclass EEG & fNIRS, "*Modality Fusion: EEG-fNIRS Convergence for a Deeper Dive into Auditory Processing*", Feb 2025.
- **Invited Speaker:** NIRx Webinar, "*Modality Fusion: EEG-fNIRS Convergence for a Deeper Dive into Auditory Processing*", March 2024.
- **Organizing Speaker:** Multimodal Neuroimaging Workshop at the 10th International Brain-Computer Interface Meeting, "*fNIRS Fundamentals & its Mergers with EEG*", June 2023.
- **Invited Speaker:** International Conference on Systems, Man, and Cybernetics, "*Fundamentals of fNIRS and its Application in Neurotechnology*", Oct 2022.
- **Invited Speaker:** 2021 IEEE Asilomar Conference on Signals, Systems, and Computers, "*A Graph-based Dynamical Characterization and Inference in Hybrid BCIs*", Oct, 2021.
- **Invited Speaker:** 47th Annual Northeastern Conference, "*An fNIRS-based Minimum Spanning Tree Approach to Analyze Brain Functional Network Dynamics*", March, 2021.
- **Invited Speaker:** The University of Southern California, "*Invasive and Non-invasive Brain-Computer Interfaces*", Oct, 2019.
- **Invited Speaker:** University of Rhode Island, Electrical, Computer, & Biomedical Engineering Graduate Seminar, "*Multimodal Characterization of Brain Activity*," Nov, 2018.
- **Invited Speaker:** University of Connecticut, Biomedical Engineering Graduate Seminar, "*Characterization of invasive and non-invasive Neural Responses in Patients with Neurological Impairment*", Dec, 2017.
- **Invited Speaker:** University of Rhode Island, Electrical, Computer, & Biomedical Engineering Graduate Seminar, "*Invasive and Non-invasive Brain-Computer Interfaces*", Dec, 2017.

- **Invited Speaker:** University of Rhode Island, Interdisciplinary Neuroscience Colloquium, *“Characterization of Brain Activity for Invasive and Non-invasive Brain-Computer Interfaces”*, Dec, 2017.
- **Invited Speaker:** Congress of Neurological Surgeons, *“Beta Oscillations during Pallidal Deep Brain Stimulation in Parkinson’s Disease”*, Oct, 2017.
- **Invited Speaker:** Boston Children Hospital, *“Brain-Computer Interfaces in Patients with Amyotrophic Lateral Sclerosis”*, Sept, 2017.
- **Invited Speaker:** National Center for Adaptive Neurotechnology, *“Neural Signal Processing in Patients with Neurological Impairment,”* Sept, 2017.
- **Invited Speaker:** Rhode Island Hospital, *“Characterization of Brain Activity in Patients with Neurological Impairments,”* Nov, 2016.
- **Invited Speaker:** Brown University, *“Characterization of Brain Activity in Patients with Neurological Impairments,”* Oct, 2016.
- **Invited Speaker:** University of Rhode Island, Electrical, Computer, & Biomedical Engineering Graduate Seminar, *“Brain Connectivity Analysis in Patients with Neurological Impairments,”* Sept, 2016.
- **Invited Speaker:** 6th International Brain-Computer Interface Meeting, *“Techniques on Brain Connectivity Analysis,”* June, 2016.
- **Invited Speaker:** University of California, at San Francisco (UCSF), Brain Seminar, *“Brain Connectivity Analysis in Parkinson’s Disease,”* April, 2016.
- **Invited Speaker:** Skyline College, San Bruno, *“Brain-Computer Interface for Assistive Technology,”* May, 2016.
- **Invited Speaker:** University of California, at San Francisco (UCSF), Brain Seminar, *“BCI Performance Variations in Patients with Amyotrophic Lateral Sclerosis,”* 2015.
- **Invited Speaker:** Old Dominion University, Electrical & Computer Engineering Graduate Seminar, *“Multichannel Characterization of Brain Activity in Patients with Neurological Disease,”* 2015.
- **Invited Speaker:** Fifth International Brain-Computer Interface Meeting, *“EEG Correlates of Performance During Long-Term Use of a P300 BCI by Individuals With Amyotrophic Lateral Sclerosis,”* 2013.
- **Invited Speaker:** 18th International Conference on Biomedical Engineering (ICBME), *“An Improved P300 Based Brain- Computer Interface: Feature Selection Based Mutual Information,”* 2011.
- **Invited Speaker:** Iran University of Science and Technology, Department of Biomedical Engineering, *“Brain-Computer Interface Systems based on P300 Signal,”* 2009.
- **Invited Speaker:** Iran University of Science and Technology, Department of Biomedical Engineering, *“A Log-Linearized Gaussian Mixture Network and its Application to EEG Signal Classification,”* 2009.
- **Invited Speaker:** Ferdowsi University of Mashad, Department of Electrical Engineering, *“Parameter Control in Wind Turbines Connected to a Double Fed Induction Generator with Matlab Simulation,”* 2008.

7. STUDENT SUPERVISION

Highlights: Graduated five PhD students and four master's students. Currently have four PhD students and one master's students.

7.1 DOCTORAL RESEARCH ADVISORY

GRADUATED

1. **Roohollah Jafari***, PhD, URI (FA17-SU21), Dissertation: Spectro-Temporal Based Quantification of Brain Functions in Neurological Disorders
2. **Alyssa Zisk***, Ph.D., URI (FA18-SP21), Dissertation: Quantifying and Compensating for P300 Variations in Amyotrophic Lateral Sclerosis
3. **Sarah Ismail Hosni***, Ph.D., URI (FA17-FA21), Dissertation: Multimodal Integration of Motor Imagery-based Signatures for Neural Response Classification
4. **Seyyed Bahram Borgheai***, Ph.D., URI (FA18-SP22), Dissertation: Incorporating Hemodynamic Cognitive Neuromarkers for Personalized Assistive Communication Technology
5. **John McLinden***, PhD, URI (FA20-FA25), Dissertation: Electro-Vascular Dynamics during Auditory Processing: Variation along the Schizotypy Continuum

TO BE GRADUATED

6. **Behtom Adeli***, PhD, URI (FA23-), Dissertation: Multimodal Perspectives on Neural Functions: Integrating Vascular and Electrical Neural Signals for Decoding and Prediction
7. **Alex Cerullo***, PhD, URI (SP25-), Dissertation: TBD
8. **Saba Bijari***, PhD, URI (FA24-), Dissertation: TBD
9. **Maryam Norouzi****, PhD, URI (FA23-), Dissertation: TBD

* Primary Ph.D. Advisor

** Co-major Ph.D. Advisor

7.2 MASTER'S RESEARCH ADVISORY

GRADUATED

1. **Alex Cerullo***, MS, URI (SP23-FA24) Project: Multimodal EEG-fNIRS Analysis of Motor Imagery and Rhythmic Action Observation
2. **James McIntyre***, MS, URI (FA20-SU22) Project: Design of a Novel Virtual Reality Object Orientation Task Memory to Assess fNIRS Neural Associations
3. **John McLinden***, MS, URI (SU18-SP20) Project: Disruptions of Cortico-Kinematic Interactions in Parkinson's Disease
4. **Debanjan Borthakur****, MS, URI (SU17-SU18) Dissertation: Quantifying the Effects of Motor Tasks on Corticokinematic Coherence in Parkinson's Disease

TO BE GRADUATED

4. **Madden Buckley***, MS, URI (FA26-)

* Primary Advisor

** Co-advisor

7.3 URI GRADUATE ADVISORY SERVICES

1. **Jay Vincelli**, PhD, URI (SP20-SU24) Inside Committee Member; Dissertation: Development and Evaluation of Novel Electrode Designs and Gels for Use in Electroencephalography
2. **Gozde Cay**, PhD, URI (SU20-SP22) Additional Committee Member; Dissertation: Design of a Wearable Multi-Sensory based Chest Belt Integrated with IoT Functions for Respiration Monitoring
3. **Rosa Ghatsee**, PhD, URI (FA18) Oral Doctoral Comprehensive Exam Additional Committee Member
4. **Jennifer Picucci**, PhD, URI (FA18) Oral Doctoral Comprehensive Exam Additional Committee Member
5. **Michael Tamayo**, MS, URI (FA16-SP18) Committee Member; Dissertation: Automated High Frequency Oscillation Detection and Seizure Onset Zone Estimation Using TCRES.
6. **Leandro Moreira da Costa**, PhD, URI (FA17) Oral Doctoral Comprehensive Exam Additional Committee Member

8. SERVICE

8.1 UNIVERSITY SERVICE (URI)

- **Acting Chair**, Biomedical Engineering Department (SU26-Present)
 - **Founding Leadership:** Led the development and successful establishment of the Department of Biomedical Engineering at the University of Rhode Island, guiding the transition from the joint Electrical, Computer, and Biomedical Engineering (ECBE) department to an independent academic department. This represented the most significant milestone for the Biomedical Engineering program since its creation more than 30 years ago, establishing URI's first standalone Department of Biomedical Engineering and positioning it for future growth in research, education, and healthcare innovation (AY25)
- **Program Director**, Biomedical Engineering (SU25-SU26)
 - **Curriculum Leadership and Strategic Program Development:** Led a comprehensive revision of the Biomedical Engineering undergraduate curriculum as part of the launch of URI's standalone BME Department. Spearheaded the development of three new concentration tracks--Bioinstrumentation and Neural Engineering, Biomechanics and Prosthetics, and Biomedical AI--while modernizing degree requirements, coordinating faculty consensus, securing departmental and university approvals, and aligning the curriculum with emerging workforce needs, translational research priorities, and pre-health career pathways (AY25)
- **Chair**, Biomedical Engineering Faculty Search Committee (FA24-SP25)

- **Member**, Graduate Online Certificate program (FA23-Present)
- **Member**, Faculty Senate Committee, University of Rhode Island (SU23-Present)
- **Member**, Intellectual Property (IP) Committee, University of Rhode Island (SP24-Present)
- **Member**, Research and Space Committee, University of Rhode Island (SP24-Present)
- **Member**, Undergraduate Affairs, University of Rhode Island (FA24-Present)
- **Member**, ECBE Graduate Committee (SP23)
- **Host**: Multimodal Neuroimaging Workshop, University of Rhode Island (SU22)
- **Member**, Biomedical Engineering Faculty Search Committee (FA20-SP21)
- **Member**, Graduate Comprehensive Exam Committee (SU20)
- **Member**, ECBE Graduate Award Committee (SP20)
- **Course Development**: BME 473/ELE 573, Brain Signal Analysis and Applications (SP20)
- **Host**: An international visiting scholar, Dr. Michael Cohen from Radboud University, Netherland (SP19).
- **Member**, ECBE Graduate Award Committee (SP19)
- **Member**, Graduate Comprehensive Exam Committee (SP19)
- **Member**, Biomedical Strategic Plan Committee (SP19)
- **Member**, Neuroscience Internal Review Task Force Committee (FA17-SP18)
- **Member**, ECBE Graduate Award Committee (SP18)
- **Course Development**: ELE 594, Brain-Computer Interfaces (FA17)
- **Member**, Robotic Faculty Search Committee (FA16-SP17)
- **Faculty**, Interdisciplinary Neuroscience Program (FA16-present)
- **Faculty**, George & Anne Ryan Institute for Neuroscience (FA16-present)

8.2 OUTREACH ACTIVITY

- **Host**: Advances in Translational Neurotechnologies for Healthcare and Rehabilitation, University of Rhode Island (SU26)
 - *Organizing and hosting: a full-day symposium featuring 16 keynote, featured, lightning-talk, and opening-remarks speakers, along with poster presentations, panel discussions, and networking opportunities. The event aims to bring together an estimated 70 researchers, clinicians, students, and industry participants to advance interdisciplinary collaboration in neurotechnology, rehabilitation, and healthcare*
- Represented BME program at Welcome day (SP26)
- Represented BME program and NeuralPC Lab at National Guard STEAM Day (SP26)
- Represented neural engineering in URI day at the Rhode Island's State Capitol (SP26)

- Hosted multiple outreach events for multiple local middle and high schools in Rhode Island (SP26)
- NSF ad-hoc panel reviewer (SP26)
- Represented BCI Demos at URI Brain Fair (SP26)
- Hosted West Warwick High School student visit to the NeuralPC Lab (SP26)
- Represented BME program at URI's Welcome Day (FA25)
- Co-organized an eight-week Biomedical Engineering internship program for local Rhode Island high-school students, providing hands-on research experience and exposure to biomedical engineering and neurotechnology (FA25)
- Represented neural engineering in URI Day at the Rhode Island's State Capitol (SP25)
- Presented a BCI-controlled robot at North Stonington Elementary School's STEAM Night (SP25)
- Hosted an outreach event for a local middle school in Rhode Island (SP25)
- Represented BCI Demos at URI Brain Fair (SP25)
- NSF panel reviewer (FA24)
- Representing BCI Demos at URI Brain Fair (SP24)
- NSF panel reviewer (SP24)
- NSF ad-hoc panel reviewer (SP24)
- **Co-Organizer:** Multimodal Brain-Computer Interfacing Workshop in 10th International Brain-Computer Interface Meeting, Belgium (SU23)
 - *Co-organized: a dedicated workshop on multimodal brain-computer interfacing, featuring invited presentations and panel discussions with approximately 50 attendees from the international BCI community*
- NSF panel reviewer (SP23)
- **Host:** Multimodal Neuroimaging Day, University of Rhode Island (SU22)
 - *Organized: a full-day symposium featuring plenary talks and workshops in both in-person and hybrid formats. The event attracted approximately 50 attendees from academia and research institutions*
- NSF panel reviewer (SP22)
- NSF panel reviewer (FA21)
- Represented BME program at COE Admitted Freshman Virtual Programs (SP21)
- Represented BME program at URI Welcome day (FA20)
- Mentored a team of multiple students at the Neuromatch Academy, an online school for computational neuroscience (SU20)
- Volunteer at Virtual Walk to Defeat ALS Event (SU20)
- URI undergraduate proposal panel (SP20)
- Represented BME program at URI Welcome day (SP20)
- Presented at the ALS Symposium held by ALS Association Rhode Island Chapter (FA19)
- NSF ad-hoc panel reviewer (SU19)

- Volunteer at Walk to Defeat ALS Event (SU19)
- NSF panel reviewer (SP19)
- Represented BCI Demos at URI Brain Fair (SP19)
- URI Fall 2018 Open House (FA18)
- Represented BCI Demos at Brain Fair (SP18)
- Represented BCI Demos and Posters at Introduction to fNIRS Workshop (FA17)
- Represented BME program at Welcome day (SP17)
- Represented BCI Demo for ALS Home Users at ALS Assistive Technology Hackathon (F17)

8.3 JOURNAL & CONFERENCE REFEREE

- 2026 *Guest Editor:* Brain Sciences (journal); *Reviewer:* IEEE Transactions on Affective Computing (journal), Computers Methods and Programs in Biomedicine (journal)
- 2025 *Review:* Journal of Neural Engineering (journal), Brain Research Bulletin (journal), IEEE Transactions on Neural and Rehabilitation Engineering (journal), Frontiers in Neuroscience (journal), Imaging Neuroscience (journal), IEEE International Workshop on Machine Learning for Signal Processing (conference)
- 2024 *Review Editor:* Frontiers in Human Neuroscience (journal); *Reviewer:* IEEE on Neural System and Rehabilitation Engineering (journal), Computers in Biology and Medicine (journal)
- 2023 *Review Editor:* Frontiers in Human Neuroscience (journal); *Reviewer:* Scientific Reports--Nature (journal), IEEE on Neural System and Rehabilitation Engineering (journal), Frontiers in Neuroscience (journal), Frontiers in Neuroergonomics (journal), Journal of Neural Engineering (journal), IEEE on Neural Networks and Learning Systems (journal)
- 2022 *Review Editor:* Frontiers in Human Neuroscience (journal); *Reviewer:* Clinical Neurophysiology (journal), Entropy (journal), Frontiers in Neuroscience (journal), Journal of Neural Engineering (journal), Neural Computing and Applications (journal)
- 2021 *Reviewer:* Brain (journal), Clinical Neurophysiology (journal), Entropy (journal), Expert Systems with Applications (journal), Journal of Neural Engineering (journal), Neuroscience Letters (journal).
- 2020 *Reviewer:* IEEE Internet of Things (journal), IEEE Sensors Letters (journal), Journal of Neural Engineering (journal), Neural Regeneration Research (journal), Neurobiology of Aging (journal), World Journal of Biological Psychiatry (journal)
- 2019 *Reviewer:* Clinical Neurophysiology (journal), IEEE on Biomedical Engineering (journal), IEEE on Neural System and Rehabilitation Engineering (journal), Neural Computing & Applications (journal)
- 2018 *Editorial Board:* IEEE Sensors Letters (journal); *Technical Committee and Reviewer:* International Conference on Biomedical Technology; *Reviewer:* IEEE on Biomed and Health Informatics (journal), IEEE on Neural System and Rehabilitation Engineering (journal), International Brain-Computer Interfaces Meeting.
- 2017 *Reviewer:* Journal of Clinical Neurophysiology (journal)
- 2016 *Reviewer:* Association for the Advancement of Medical Instrumentation, International Conference on the IEEE Engineering in Medicine and Biology Society

2015 *Reviewer:* International Conference on the IEEE Engineering in Medicine and Biology Society

8.4 PROFESSIONAL MEMBERSHIPS

2014- Present Society for Neuroscience (SfN)
2016- Present Brain-Computer Interface (BCI) Society
2018- Present Brain Community, IEEE
2016- Present IEEE Member
2016- Present IEEE Engineering in Medicine and Biology Society
2016- Present IEEE Signal Processing Society

9. HONORS

- Recipient of The Global Mobility Travel Grant (\$1000) (2023).
- Recipient of The Global Mobility Travel Grant (\$2,000) (2021).
- Recipient of National Science Foundation SCH Aspiring PI Award (2020).
- Recipient of The Global Mobility Travel Grant (\$1,500) (2020).
- Recipient of Distinguished Visiting International Scholar Award to host Dr. Michael Cohen from Radboud University Medical Center, Nijmegen, Netherlands (\$8,500) (2018).
- Recipient of Rhode Island IDeA Network for Excellence in Biomedical Research Award (\$200,000) (2017).
- Fourth Annual ODU Research Achievement Award (2014).
- Research abstract entitled: "EEG Correlates of Performance During Long-Term Use of a P300 BCI by Individuals With Amyotrophic Lateral Sclerosis" was categorized in the overview of the most exciting BCI research worldwide and selected as an oral presentation in the Fifth International BCI Meeting, Pacific Grove, California (2013).

9.1 HONORS OF MY STUDENTS

- 2026: NSF Non-Academic Research Internship for Graduate Student (INTERN) Supplemental Funding-**Behtom Adeli**
- 2026: Second prize (\$2,000), Yconic's URI Hackathon-**Behtom Adeli, Alex Cerullo, Cassandra Naughton**
- 2026: URI Outstanding Poster Award-**Saba Bijari**
- 2025: NSF Non-Academic Research Internship for Graduate Student (INTERN) Supplemental Funding-**Behtom Adeli**
- 2024: Abstract entitled "EEG-fNIRS Causal Interactions during Auditory Processing" selected for oral presentation and travel award, Neuroscience of the Everyday World Conference-**John McLinden**
- 2024: NSF Non-Academic Research Internship for Graduate Student (INTERN) Supplemental Funding-**John McLinden**
- 2024: URI Outstanding Graduate Research Award-**John McLinden**
- 2022: NSF Non-Academic Research Internship for Graduate Student (INTERN) Supplemental Funding-**John McLinden**
- 2021: URI Graduate Student Research and Scholarship Excellence Award in Life Sciences, Physical Sciences, and Engineering- **Sarah Ismail Hosni**

- 2021: URI Outstanding Graduate Research Award-**Sarah Ismail Hosni**
- 2021: URI Outstanding Graduate Research Award-**Alyssa Hillary Zisk**
- 2021: URI Outstanding Poster Award-**Sarah Ismail Hosni**
- 2021: URI Outstanding Poster Award-**Alyssa Hillary Zisk**
- 2020: NSF Non-Academic Research Internship for Graduate Student (INTERN) Supplemental Funding-**Seyyed Bahram Borgheai**
- 2020: URI Outstanding Graduate Research Award- **Seyyed Bahram Borgheai**
- 2020: URI Outstanding Poster Award-**Sarah Ismail Hosni**
- 2020: URI Outstanding Poster Award-**Roohollah Jafari Deligani**
- 2020: URI Outstanding Poster Award-**Alyssa Hillary Zisk**
- 2019: URI Graduate Award-**Seyyed Bahram Borgheai**
- 2019: URI Graduate Award-**Sarah Ismail Hosni**
- 2019: URI Graduate Award-**John McLinden**
- 2018: 7th BCI meeting Student Award-**Sarah Ismail Hosni**
- 2018: 7th BCI meeting Student Award-**Roohollah Jafari Deligani**