

Curriculum Vitae

RAMANA KUMAR VINJAMURI

Harvey N Davis Distinguished Assistant Professor in Biomedical Engineering
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RESEARCH INTERESTS

- Modeling motor control and motor disabilities
- Brain-machine interfaces and neural prostheses
- High-dimensional prosthetics and rehabilitation

EDUCATION

- Ph.D. in Electrical Engineering, University of Pittsburgh, Pittsburgh, PA (Aug.2008).
- M.S. in Electrical Engineering, Villanova University, Villanova, PA (Aug.2004).
- B. Tech. in Electrical and Electronics Engineering, Kakatiya University, India (May 2002).

PROFESSIONAL EXPERIENCE

- Assistant Professor (Aug.2013-Current)
Dept. of Biomedical Engineering, School of Engineering, Stevens Institute of Technology.
- Adjunct Assistant Professor (Aug.2014-Current)
Dept. of Biomedical Engineering, Indian Institute of Technology, Hyderabad, India.
- Assistant Research Professor (Aug.2012-Aug.2013)
Dept. of Biomedical Engineering, Whiting School of Engineering, Johns Hopkins University.
- Lecturer (Aug.2012-Aug.2013)
Dept. of Biomedical Engineering, Whiting School of Engineering Professionals, Johns Hopkins University.
- Postdoctoral Research Associate (Aug.2008-Aug.2012)
Department of Physical Medicine and Rehabilitation, University of Pittsburgh.
Project: Brain Machine Interfaces for Neural Prosthesis, Virtual Reality for Rehabilitation.

RESEARCH GRANTS

- Mary E. Switzer Merit Fellowship from National Institute on Disability and Rehabilitation Research (NIDRR) (PR: H133F100001); Project: A synergy-based brain machine interface to reanimate paralyzed hands. Role: Principal Investigator. Aug.2010-2011.
- Undergraduate Training in Scientific Research, Center for Healthcare and Innovation, Stevens Institute of Technology; Project: A versatile human-hand exoskeleton. Role: Mentor. Aug.2014-2019.
- Undergraduate Training in Scientific Research, Independent College Fund of New Jersey; Virtual reality for Prosthetic Training. Aug. 2015-2019.
- Graduate Research Fellowship, Office of Innovation and Entrepreneurship, Stevens Institute of Technology; Project: Brain-machine interfaces for upper limb prosthetics. Role: PhD Advisor. Aug. 2015-2017.
- Ignition Grants Initiative, Stevens Institute of Technology; Project: Rehab robotics. Role: Principal Investigator. Aug. 2016-2017.
- Research Grant, New Jersey Health Foundation. Project: Dexterous human hand exoskeletons to reanimate paralyzed hands. Role: Principal Investigator. April 2016-2017.
- Ignition Grants Initiative, Stevens Institute of Technology; Project: Cybersecurity authentication with hand synergies. Role: Principal Investigator. Summer 2017.
- Deans Lab Improvement Initiative, Stevens Institute of Technology; Project: Improving Design VI/BME 322 hands on experience for predesign students. Feb. 2018.
- Research Grant, New Jersey Health Foundation. Project: An integrated system for objective assessment of Parkinson's disease. Role: Principal Investigator. April 2018-2019.
- Innovation Grant, New Jersey Health Foundation. Project: Dexterous human hand exoskeletons to reanimate paralyzed hands. Role: Principal Investigator. March 2019-2020.
- CAREER Award. National Science Foundation. Project: Synergy-based human-machine interfaces. Role: Principal Investigator. Sep. 2019-2024.

COURSES

- BME 306: Introduction to Biomedical Engineering (group taught by Biomedical Engineering Faculty); Fall 2013- Current
- BME 322: Design VI – Introduction to Biomedical Instrumentation; Fall 2014 – Current; Primary teaching responsibility. 2 sections per semester. Average Fall Class size 10. Average Spring Class size 25.
- BME 181: Undergraduate Research Seminar in Biomedical Engineering (group taught by Biomedical Engineering Faculty); Spring 2016- Current
- BME 558: Introduction to Brain Machine Interfaces; Summer 2016 – Current.
- PIN 183 and 184: Stevens Pinnacle Scholars Seminar Course; Fall 2018 – Current.

WORKSHOPS

- 1st Brain Computer Interface Workshop for Control, Assessment and Rehabilitation at Stevens Institute of Technology. Organized by Ramana Vinjamuri and Christoph Guger. Co-organized by Dr. George McConnell and Dr. Ravi Nataraj. Oct. 30. 2018. Graduate students from Vinjamuri lab and Nataraj lab coordinated catering and logistics.
- 2nd Brain Computer Interface Workshop for Motor Control and Motor Learning at Stevens Institute of Technology. Organized by Ramana Vinjamuri and Christoph Guger. Scheduled for Oct, 2020.

AWARDS and HONORS

- IEEE Senior Member. 2011.
- Recognized by Provost and Vice-President for Teaching Excellence. 2016-2018.
- Harvey N Davis Distinguished Teaching Award. 2018.
- Top 12 BCI Technology in the world by BCI Award Foundation. 2018.
- NSF CAREER Award. 2019.
- Student Awards
 1. Vrajeshri Patel, PhD (2014-2018)
 - a. EMBC2016 NSF Award for Young Professionals. 2016.
 - b. Outstanding Research by a PhD Student 2017-2018.
 2. Martin Burns, PhD student (2015 - Current)
 - a. 1st place, Innovation and Entrepreneurship Doctoral Fellowship Conference, 2017.
 - b. 2nd place, Johnson and Johnson Engineering Showcase, 2018.
 - c. 1st place, Annual Regional New Jersey ISPE Annual Meeting, 2018.
 - d. 1st place, International Society of Pharmaceutical Engineering Annual Meeting, 2018.

PATENTS

- R. Vinjamuri (Lead), W. Wang, Z.-H. Mao, D. Weber. Human machine interface based on task-specific temporal postural synergies (US Patent No. 13/246,190). 2015.
- R. Vinjamuri (Lead), V. Patel, R. Chandramouli. Cybersecurity authentication with hand synergies (US Provisional Patent Application No. 62/352,132). 2016.
- R. Vinjamuri (Lead), M. Burns, V. Patel. Hand exoskeleton with embedded biomimetic control mechanisms (US Nonprovisional Patent Application No. 101995-046401). 2018.
- R. Vinjamuri (Lead), M. Burns, R. Rosa. 3D-printed custom-fit instrumented glove with embedded sensors (US Provisional Patent Application No. 101995-049100). 2019.

PUBLICATIONS **Journal papers**

1. P. Singh, **R. Vinjamuri**, X. Wang, and D. Reisner. Fuzzy logic modeling of EIS measurements on Lithium-ion batteries, *Electrochimica Acta*, Vol. 51, pp. 1673-1679, 2006.
2. P. Singh, **R. Vinjamuri**, X. Wang, and D. Reisner. Design and implementation of a fuzzy logic based state-of-charge meter for Li-ion batteries used in portable defibrillators, *Journal of Power Sources*, Vol. 152, pp. 829-836, 2006.
3. **R. Vinjamuri**, D. Crammond, D. Kondziolka, H.-N. Lee and Z.-H. Mao. Extraction of sources of tremor in hand movements of patients with movement disorders. *IEEE Transactions on Information Technology in Biomedicine*, Vol.13, pp. 49-56, 2009.

4. **R. Vinjamuri**, M. Sun, R. Sciabassi, and Z. -H. Mao. Temporal postural synergies of hand in rapid grasping tasks. *IEEE Transactions on Information Technology in Biomedicine*, Vol.14, pp. 986-994, 2010.
5. **R. Vinjamuri**, M. Sun, R. Sciabassi, and Z.-H. Mao. Dimensionality reduction in control and coordination of human hand. *IEEE Transactions on Biomedical Engineering*, Vol.57, pp. 284-295, 2010.
6. **R. Vinjamuri**, D. Weber, Z.-H. Mao, J. Collinger, A. Degenhart, J. Kelly, M. L. Boninger, E. C. Tyler-Kabara and W. Wang. Towards synergy based control in brain machine interfaces. *IEEE Transactions in Information Technology and Biomedicine*, Vol.15, pp.726-736, 2011.
7. W. Wang, J. L. Collinger, A. D. Degenhart, E. C. Tyler-Kabara, A. B. Schwartz, D. W. Moran, B. Wodlinger, **R. Vinjamuri**, J. Kelly, R. Ashmore, M. Boninger. An Electrographic Brain Interface in an Individual with Tetraplegia. *PLOS ONE*, 8(2):e55344, 2013.
8. J. Collinger, **R. Vinjamuri**, A. Dagenhart, G. Sudre, M. Boninger, E. Tyler-Kabara, D. Weber, and W. Wang. Motor-related brain activity during action observation: a neural substrate for electrocorticographic brain-computer interfaces after spinal cord injury. *Frontiers in Integrative Neuroscience*, Vol. 8(17), 2014.
9. **R. Vinjamuri**, V. Patel, M. Powell, N. Crone. Candidates for synergies: principal components vs. linear discriminants. *Computational Intelligence and Neuroscience*, Vol. 2014, 2014.
10. V. Patel, M. Burns, Z.H. Mao, N. Crone, **R. Vinjamuri**. Linear and nonlinear synergies in grasping hand. *Journal of Biological and Biomedical Sciences*, 2015.
11. V. Patel, M. Burns, **R. Vinjamuri**. Effect of visual and tactile feedback on kinematic synergies in grasping hand. *Medical and Biological Engineering and Computing*, 2015.
12. M. Burns, V. Patel, **R. Vinjamuri**. Low dimensional synergistic representation of bilateral reaching movements. *Frontiers in Bioengineering and Biotechnology*. Vol.5. 2017.
13. V. Patel, M. Burns, P. Thukral, **R. Vinjamuri**. Hand grasping synergies as Biometrics. *Frontiers in Bioengineering and Biotechnology*. Vol.5. 2017.
14. V. Patel, M. Burns, R. Chandramouli, **R. Vinjamuri**. Biometrics based on hand synergies and their neural representations. *IEEE Access*. Vol.5. 13422-13429.
15. D. Pei, M. Burns, R. Chandramouli, **R. Vinjamuri**. "Decoding asynchronous reaching in electroencephalography using stacked autoencoders," *IEEE Access* 6 (2018): 52889-52898.
16. D. Pei, V. Patel, M. Burns, R. Chandramouli, **R. Vinjamuri**. "Neural Decoding of Synergy-based Hand Movements using Electroencephalography," *IEEE Access* 2019.
17. M. Burns, D. Pei, **R. Vinjamuri**. "Electromyographic control of a human hand exoskeleton embedded with kinematic synergies," *Frontiers in Robotics*. *Manuscript in preparation*.
18. M. Burns, V. Patel, R. Rosa, **R. Vinjamuri**. A low-cost instrumented glove for hand movement tracking. *Manuscript in preparation*.

Books

19. **R. Vinjamuri** (2018). *Biomimetic Prosthetics*. InTech, Croatia.
20. **R. Vinjamuri** (2019). *Prostheses*. InTech, Croatia. *In preparation*.
21. **R. Vinjamuri** (2019). *Advances in Motor Neuroprosthesis*. Springer, NY. *In preparation*.
22. **R. Vinjamuri** (2019). *Advances in Neural Signal Processing*. InTech, Croatia. *In preparation*.

Book chapters

23. **R. Vinjamuri**, W. Wang, M. Sun and Z.-H. Mao (2012). Application of linear and nonlinear dimensionality reduction methods, Principal component analysis, Parinya Sanguansat (Ed.), ISBN: 978-953-51-0195-6, InTech.
24. M. Burns, M. Schumacher, and **R. Vinjamuri**, "Introductory Chapter: Toward Near-Natural Assistive Devices," in *Biomimetic Prosthetics*, R. Vinjamuri, Ed. InTech, 2018.
25. D. Pei, M. Burns, V. Patel, and **R. Vinjamuri**, "Decoding holistic upper limb movements using electroencephalography," in *Brain-Computer Interface Research: A State-of-the-Art Summary*, C. Guger, Ed. Springer, 2019. *In preparation*.
26. M. Burns, **R. Vinjamuri**, "Hand exoskeleton embedded with synergies: design and implementation," in *Advances in Neuromotor Prosthesis*, R. Vinjamuri, Ed. Springer, 2019. *In preparation*.

27. M. Burns, S. Madanagopalan, and **R. Vinjamuri**, "Introductory Chapter: State of the art prosthesis," in *Prosthesis*, R. Vinjamuri, Ed. Intech, 2019. *In preparation*.

Selected peer-reviewed conference papers

28. P. Singh, **R. Vinjamuri**, X. Wang, and D. Reisner. Fuzzy logic based state-of-health estimation of Li-ion Batteries, in 41st Power Sources Conference, Philadelphia, PA, pp. 461-464, 2004.
29. P. Singh, **R. Vinjamuri**, X. Wang, and D. Reisner. Fuzzy logic modeling of EIS measurements on Lithium-ion batteries, in International Symposium on Electro chemical Impedance Spectroscopy, Cocoa Beach, FL, 2004.
30. **R. Vinjamuri**, Z.-H. Mao, R. Sclabassi, and M. Sun. A novel architecture for the design of prosthetic and robotic hands, in 32nd Northeast bio Engineering Conference, Allentown, PA, pp. 163-164, 2006.
31. **R. Vinjamuri**, Z.-H. Mao, R. Sclabassi, and M. Sun. Limitations of surface EMG signals of extrinsic muscles in predicting postures of human hand, in Proceedings of the 28th IEEE EMBS Annual International Conference, NY, USA, pp. 5491-5494, 2006.
32. **R. Vinjamuri**, Z.-H. Mao, R. Sclabassi, and M. Sun. Time-varying synergies in velocity profiles of finger joints of the hand during reach and grasp, in Proceedings of the 29th IEEE EMBS Annual International Conference, France, pp. 4846-4849, 2007.
33. **R. Vinjamuri**, M. Sun, R. Sclabassi, and Z.-H. Mao. Inherent bimanual postural synergies in hands, in Proceedings of the 30th IEEE EMBS Annual International Conference, Canada, pp. 5093-5096, 2008.
34. **R. Vinjamuri**, M. Sun, R. Sclabassi, and Z. -H. Mao. Temporal variation of postural synergies of the human hand during grasping. 16th international conference on mechanics in medicine and biology, Pittsburgh, PA, USA, 23rd-25th July 2008.
35. **R. Vinjamuri**, D. Crammond, D. Kondziolka, and Z.-H. Mao. Extraction of neural sources from kinematic profiles of hand movement, in NSF Engineering Research and Innovation Conference, Knoxville, TN, 2008.
36. **R. Vinjamuri**, Brian Dicks, Mingui Sun, Robert Sclabassi, and Z.-H. Mao. Graphical realization of time-varying synergies in velocity profiles of finger joints of the hand during reach and grasp, in NSF Engineering Research and Innovation Conference, Knoxville, TN, 2008.
37. **R. Vinjamuri**, M. Sun, R. Sclabassi, and Z. -H. Mao. Temporal variation of postural synergies of the human hand during grasping. 16th international conference on mechanics in medicine and biology, Pittsburgh, PA, USA, 23rd-25th July 2008.
38. **R. Vinjamuri**, D. Weber, A. Degenhart, J. Collinger, G. Sudre, P. D. Adelson, D. L. Holder, M. L. Boninger, A. B. Schwartz, D. J. Crammond, E. C. Tyler-Kabara and W. Wang. A Fuzzy logic model for hand posture control using human cortical activity recorded by micro-ECoG electrodes, in Proceedings of the 31st IEEE EMBS Annual International Conference, Minneapolis, MN, USA, 2009.
39. **R. Vinjamuri**, M. Sun, D. Weber, W. Wang, D. Crammond, and Z.-H. Mao. Quantizing and characterizing the variance of hand postures in a novel transformation task, in Proceedings of the 31st IEEE EMBS Annual International Conference, Minneapolis, MN, USA, 2009.
40. W. Wang, A. Degenhart, J. Collinger, **R. Vinjamuri**, G. Sudre, P. Adelson, D. Holder, E. Leuthardt, D. Moran, M. Boninger, A. Schwartz, D. Crammond, E. Tyler-Kabara and D. Weber. Human motor cortical activity recorded with micro-ECoG electrodes during individual finger movements, in Proceedings of the 31st IEEE EMBS Annual International Conference, Minneapolis, MN, USA, 2009.
41. J. Collinger, W. Wang, A. Degenhart, **R. Vinjamuri**, G. Sudre, E. Tyler-Kabara, D. Weber Towards a direct brain interface for controlling assistive devices, in International Symposium on Quality of Life Technologies, Pittsburgh, PA, 2009. **R. Vinjamuri**, M. Sun, and Z.-H. Mao. A framework for extracting kinematic synergies of hand movement, in NSF Engineering Research and Innovation Conference, Hawaii, 2009.
42. **R. Vinjamuri**, A. Degenhart, J. L. Collinger, G. P. Sudre, E. Leuthardt, D. Moran, M. Boninger, A. B. Schwartz, D. J. Crammond, E. Tyler-Kabara, D. J. Weber, W. Wang. Human micro-

- electrocorticographic signals recorded during action execution and observation. BMES Annual Fall Scientific Meeting, Pittsburgh, PA, Oct. 7-10, 2009.
43. **R. Vinjamuri**, A. Degenhart, J. L. Collinger, G. P. Sudre, D. J. Crammond, E. Tyler-Kabara, D. J. Weber, W. Wang. Decoding hand posture based on human micro-electrocorticographic signals recorded during action observation. Neuroscience, Chicago, IL, Oct. 17-21, 2009.
 44. **R. Vinjamuri**, A. Degenhart, J. L. Collinger, D. J. Crammond, E. Tyler-Kabara, D. J. Weber, M. Boninger, Z.-H. Mao, W. Wang. Towards synergy based brain machine interfaces. Neuroscience, San Diego, CA, Nov. 17-21, 2010.
 45. S. Foldes, **R. Vinjamuri**, W. Wang, D. Weber, J. Collinger. Stability of MEG for real-time neurofeedback, in Proceedings of the 33rd IEEE EMBS Annual International Conference, Boston, MA, USA, 2011.
 46. A. Degenhart, J. Collinger, **R. Vinjamuri**, J. Kelly, E. Tyler-Kabara, W. Wang. Classification of hand posture from electrocorticographic signals recorded during varying force conditions, in Proceedings of the 33rd IEEE EMBS Annual International Conference, Boston, MA, USA, 2011.
 47. M. Fifer, G. Milsap, E. Greenwald, D. McMullen, W. S. Anderson, N. V. Thakor, N. E. Crone, **R. Vinjamuri**. Design and Implementation of a Human ECoG Simulator for Testing Brain-Machine Interfaces. IEEE NER, San Diego, CA, 2013.
 48. V. Patel, M. Burns, M. Pourfar, A. Mogilner, D. Kondziolka, **R. Vinjamuri**. QAPD: An Integrated System to Quantify Symptoms of Parkinson's Disease. 38th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, Orlando, FL, USA, 2016.
 49. M. Burns, K. Van Orden, V. Patel, **R. Vinjamuri**. Towards a wearable hand exoskeleton with embedded synergies. 39th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, Jeju Island, Korea, 2017.
 50. V. Patel, M. Burns, D. Pei, and **R. Vinjamuri**, "Decoding Synergy-Based Hand Movements Using Electroencephalography," in 40th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2018.

INVITED TALKS

- Synergy-based Brain Machine Interfaces. NYMedTalks Conference. New York Medical College, Valhalla. NY. USA. Nov. 2014.
- Advances in Brain Machine Interfaces. Department of Biomedical Engineering. Indian Institute of Technology, Hyderabad, India. June 2014.
- Applications of Electroencephalography in Neuroprosthetics. Department of Neurology. Care Hospitals, Hyderabad, India. June 2015.
- Advanced in Biomedical Instrumentation – Prosthetics. Department of Biomedical Engineering. Indian Institute of Technology, Hyderabad, India. June 2015.
- Towards a wearable hand exoskeleton with embedded synergies. 39th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, Jeju Island, Korea, 2017
- Decoding synergy-based hand movements using EEG 40th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2018.
- Presentation proposal to establish NSF sponsored IUCRC Brain Center, NSF Internal Advisory Board, University of Houston, Houston, 2018.

STUDENT SUPERVISION

- Graduate research
 - Vrajeshri Patel, PhD. Graduated. May 2018.
 - Hafsa Nadia, MS. Graduated. May 2018.
 - Martin Burns, PhD Candidate. Expected Graduation Date: May 2020.
 - Dingyi Pei, PhD Student. Expected Graduation Date: May 2022.
 - Shanthini Madhanagopal, Graduate Researcher, 2019; Rukmal Weerawarana, Graduate Researcher, 2018; Brendan Hickey, Masters Research, 2015-2016, Divyesh Mehta, Masters Research, 2015-2016, Dr. Hima Kadaru, Clinical Research, Summer 2015, Jessica Kleinbert, BME, Masters Research 2014-2015, Cory Zegel, BME, Masters Research 2014-2015, Payal Parekh, MS, Summer Research 2013.
- Undergraduate research
 - Magdalena Slonski, Pinnacle Research Scholar, 2018; Michael Obando, ICFNJ Research Fellow, 2018-2019, Brandon Herb, I&E Summer Research Fellow, 2018; Shreya Anjaria,

CHI Research Fellow, 2018-2019; Hirra Shirani, ICFNJ Research Fellow, 2018-2019; Daniel Cleary, Summer Research Scholar, 2018; Katie Van Orden, Pinnacle Research Scholar, 2016-; Rachel Rosa, Stevens Scholar, CHI Research Fellow, 2016-; Devon Thompson, Summer Research Student, Summer 2018; Sal Finocchiaro, ICFNJ Research Fellow, 2017-2018; Jacob Coumans, ICFNJ Research Fellow, 2017-2018; Jay Patel, ICFNJ Research Fellow, 2017-2018; Stephanie Sayegh, ICFNJ Research Fellow, Summer 2016-2017; Teny Odaimi, Summer Research Scholar, Summer 2017; Christian Jensen, Pinnacle Research Scholar, Summer 2017; Gerald Lamina, I&E Research, 2016; Colin Navickas, Summer Research Student, Summer 2016; Katie Van Orden, Pinnacle Scholar Research, 2016; Jeffrey Paine, Stevens Scholar Research, Summer 2016; Lilly Razzaghi, Summer Research student, Summer 2016; Rachel Rosa, Stevens Scholar Research, 2016; Michelle Schumacher, Stevens Scholar Research, Summer 2016; Stephanie Sayegh, Summer Research Student, Summer 2016; Julia Stika, Summer Research Student, Summer 2016; Jorge Salome, Summer Research, 2016; Richard Schermerhorn, Pinnacle Scholar Research, 2016; Zach Zavoda, I&E Research, 2016; Jamie Craig, Scholars and CHI Research, 2015-2016; Michael Reilly, Summer Research, 2015-2016; Joe LoRizzo, I&E, BME Summer Research 2015; Charles Kawalski, ME, Summer Research 2015; Nicollete Pappas, BME, Fall Research 2015; Poojita Thukral, BITS Goa, India, Senior Design 2015; Sara Hassan, CHI Research, 2014-15; Akash Sharma, ChemBio Senior Design 2014; Kevin Doherty, ECE, Summer Research 2014; Faisal Mansuri, BME, Summer Research 2014; Piotr Kulik, ECE, Summer Research 2014; Tim Dana, BME, Summer Research 2014; Mike Magglio, BME, Summer Research 2014

- High school students summer research
 - Sanya Jain, 2019. Helen Myerson, 2018. Rohan Mukundan, 2017. Shweta Vazhappily, 2015; Srishti Karra, 2014.
- PhD proposal and dissertation committees
 - Department of Biomedical Engineering: Joan Popkin (2nd attempt - Spring 2016), Weiwei Wang (Spring 2016), Munish Shah (Fall 2015), Joan Popkin (Spring 2014) and Sean Sanford (2019).
 - Department of Mechanical Engineering: Wonyoung Kim (Summer 2014), Wenbo Liu (2018)
 - Department of Electrical Engineering: Hafsa Nadia (2018), Mohammad Alnakhli (2018)
- **Institute Services**
 - Member of Stevens Institutional Review Board (January 2018-Current)
 - Member of Stevens Committee on Committees (May 2018-Current)
 - IDEAS Program Advisor (Summer 2017)
 - I&E Summer Scholar's Program Advisor (Summer 2014-Current)
- **Department Services**
 - Member of Dissertation Committees (Fall 2013-Current)
 - PhD Dissertation Proposal Committee Chair for (Spring 2016)
 - Faculty Advisor for Graduate BMES Chapter (Spring 2018-Current)
 - Graduate Student Study Plan Advisor (Spring 2019-Current)
 - Member of Graduate Curriculum Committee (Spring 2019-Current)
- **Journals**
 - Associate Editor, Frontiers in Bioengineering and Biotechnology
 - Associate Editor, Medical & Biological Engineering & Computing, Springer, ISSN:0140-0118
 - Special Topic Editor, Frontiers in Bioengineering and Biotechnology: Applications of synergies in human machine interfaces.
 - Special Topic Editor, Frontiers in Bioengineering and Biotechnology: Integrating Command and Drive of Neuromotor Prostheses

**SERVICE
AND
PROFESSIONAL
ACTIVITIES**

- Reviewer for IEEE ACCESS, IEEE Transactions in Biomedical Engineering, Journal of Neural Engineering, IEEE Transactions on Neural Networks, IEEE Transactions on Intelligent Transport Systems, IEEE EMBC, IEEE EMBS BHI, Sensors, International Journal of Radio Frequency Identification Technology and Applications, International Journal of Nano Medicine, Journal of Mechanics in Medicine and Biology, Journal of Medical & Biological Engineering & Computing, Frontiers in Systems Neuroscience, and Brain Structure and Function.
- **Conferences**
 - Session Chair, Motor Neuroprosthesis, IEEE EMBC 2017.
 - Session Chair, Neural Signal Processing, IEEE EMBC 2018.
 - Reviewer for IEEE EMBS EMBC and IEEE EMBS BHI since 2008.
- **Panels and Study Sections**
 - Panelist for National Institute on Disability, Independent Living and Rehabilitation Research (NIDILRR) for–(i) Field Initiated Projects (ii) Mary E. Switzer Merit Fellowships, (iii) SBIR Phases I and II and (iv) Advanced Rehabilitation Research and Training.
 - Panelist for Department of Defense (DoD), Congressionally Directed Medical Research Programs (CDMRP) for (i) Neuroprosthetics (NP) (ii) Neurostimulation Technologies (NST) peer review panel of the 2017 and 2018 Spinal Cord Injury Research Program(SCIRP) (iii) Military Operational Medicine (MOM) peer review panel of the FY18 Joint Warfighter Medical Research Program (JWMRP) and (iv) Medical Simulation and Information Sciences (MSIS).
 - Panelist for NSF Future of Work at the Human Technology Frontier.
 - Panelist for The Netherlands Organization for Health Research and Development (ZonMw) program for Translational Research.
- **Others**
 - Chapter Chair for IEEE Signal Processing Society of Pittsburgh Chapter (Aug.2010-Aug.2012)
 - Panel Judge, Artificial Intelligence – Human Machine Interfaces, 25th Annual Beacon Conference, Bergen Community College, Paramus, NJ.
 - Faculty Advisor for Stevens Graduate and Undergraduate BMES Student Club (July 2016 - Current)