

Curriculum Vitae

Shivayogi V. Hiremath

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Assistant Professor
Department of Health and Rehabilitation Sciences
Temple University
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Research Interests:

Rehabilitation Sciences; Rehabilitation Engineering; Spinal Cord Injury; Personal Health Informatics; Assistive Technology; Exercise; Health and Physical Activity; Orthotics; Prosthetics; Wearable devices

Education:

- 2013 **University of Pittsburgh, Pittsburgh, PA, USA**
PhD in Rehabilitation Science
Dissertation title: *Physical activity monitoring system for manual wheelchair users.*
Advisor: Dan Ding
- 2009 **University of Pittsburgh, Pittsburgh, PA, USA**
MS in Rehabilitation Science and Technology
Thesis title: *Evaluation of accelerometer-based activity monitors to assess energy expenditure of manual wheelchairs users with spinal cord injury.*
Advisor: Dan Ding
- 2005 **Visveswaraiah Technological University, India**
Bachelor of Engineering in Electrical and Electronics
Thesis title: *Probabilistic methodologies for mobile robot navigation.*
Advisor: Sartaj Singh

Appointments and Research Experience:

- 2019- Present Assistant Professor on Tenure Track (primary)
Department of Health and Rehabilitation Sciences, Temple University
- 2016-2019 Assistant Professor on Tenure Track (primary)
Department of Physical Therapy, Temple University (a reorganization led the Department to be part of the new Department of Health and Rehabilitation Sciences).
- 2017- Present Affiliate Member, Center for Obesity Research and Education, Temple University
- 2017-2018 Visiting Scholar, Center for Large Data Research and Data Sharing in Rehabilitation, University of Texas Medical Branch, Galveston
- 2013-2015 Post-Doctoral Associate, Human Rehabilitation and Neural Engineering Laboratory
Department of Physical Medicine and Rehabilitation, University of Pittsburgh, Pittsburgh, PA, USA; Mentors: Wei Wang, Michael L. Boninger

Curriculum Vitae

- 2007-2013 Graduate Student Researcher, Human Engineering Research Laboratories
Department of Rehabilitation Science and Technology, University of Pittsburgh,
Pittsburgh, PA, USA; Mentors: Dan Ding, Rory A. Cooper
- 2008-2013 Visiting Researcher, Informatics Group
BodyMedia, Inc., Pittsburgh, PA, USA
- 2005-2007 Project Engineer
Systemantics India Pvt. Ltd., Bengaluru, India
- 2005 Visiting Researcher
Spastics Society of Karnataka, Bengaluru, India
- 2005 Research Assistant
Centre for Artificial Intelligence and Robotics, Bengaluru, India
- 2002-2005 Research Experience for Undergraduate Student, Mass Spectroscopy Laboratory
Indian Institute of Science, Bengaluru, India

Publications:

Peer Reviewed Journal Proceedings

* indicates Mentee or Advisee

1. Amiri, A.M.*, **Hiremath, S.V.**, Salzer, M.S., Snethen, G. Predicting physical activity levels in individuals with schizophrenia through integrated global positioning system and accelerometer data. *Schizophrenia Research*, August 9, 2019.
2. Degenhart, A.D, **Hiremath, S.V.**, Yang, Y., Foldes, S.T., Collinger, J.L., Boninger, M.L., Tyler-Kabara, E.C., Wang W. *Remapping cortical modulation for electrocorticographic brain-computer interfaces: a somatotopy-based approach in individuals with upper-limb paralysis*. *Journal of Neural Engineering*. 15 (2), 026021, 2018.
3. **Hiremath, S.V.**, Hogaboom, N.S., Roscher, M.R., Worobey, L.A., Oyster, M.L., Boninger, M.L. *Longitudinal prediction of quality of life scores and locomotion in individuals with traumatic spinal cord injury*. *Archives of Physical Medicine and Rehabilitation*. 98(12) 2385-92, 2017.
4. **Hiremath, S.V.**, Tyler-Kabara, E.C., Wheeler, J.J., Moran, D.W., Gaunt, R.A., Collinger, J.L., Foldes, S.T., Weber, D.J., Chen, W., Boninger, M.L., Wang, W.. *Human perception of electrical stimulation on the surface of somatosensory cortex*. *PloS ONE*, 12(5), p.e0176020, 2017.
5. Amiri, A.M., Peltier, N., Goldberg, C., Sun, Y., Nathan, A., **Hiremath, S.V.**, Mankodiya, K. *WearSense: Detecting Autism Stereotypic Behaviors through Smartwatches*. *Healthcare, Multidisciplinary Digital Publishing Institute*, 5 (1), p.11, 2017.
6. **Hiremath, S.V.**, Intille, S.S., Kelleher, A., Cooper, R.A., Ding D. *Estimation of energy expenditure for wheelchair users using a physical activity monitoring system*. *Archives of Physical Medicine and Rehabilitation*, 97(7) 1146-1153, 2016.
7. Tsang, K., **Hiremath, S.V.**, Crytzer, T.M., Dicianno, B.E., and Ding, D., *Validity of activity monitors in wheelchair users: A systematic review*. *Journal of Rehabilitation Research and Development*, 53 (6) 641-658, 2016.
8. **Hiremath, S.V.**, Chen, W., Wang, W., Foldes, S., Yang, Y., Tyler-Kabara, E.C, Collinger, J.L., Boninger, M.L. *Brain computer interface learning for systems based on electrocorticography and intracortical microelectrode arrays*. *Frontiers in Integrative Neuroscience*, 9:40. 2015.
9. **Hiremath, S.V.**, Intille, S.S., Kelleher, A., Cooper, R.A., Ding D. *Detection of physical activities using a physical activity monitor system for wheelchair users*. *Medical Engineering & Physics*. 37(1) 68-76: 2015.
10. Tsang, K., **Hiremath, S.V.**, Ding, D., *Evaluation of custom energy expenditure models for the SenseWear armband in manual wheelchair users*. *Journal of Rehabilitation Research and Development*, 52 (7), 793-804, 2015.

Curriculum Vitae

11. Sindall P., Lenton J.P., Malone L., Douglas S., Cooper R.A., **Hiremath S.**, Tolfrey K., Goosey-Tolfrey V. *Effect of low-compression balls on wheelchair tennis match-play*. International Journal of Sports Medicine, 35 (5), 424-431: 2014.
12. **Hiremath, S.V.**, Ding, D., Cooper, R.A. *Development and evaluation of a gyroscope based wheel rotation monitor for manual wheelchair users*. Journal of Spinal Cord Medicine, 36 (4), 347-356: 2013.
13. **Hiremath, S.V.**, Ding, D., Farrington, J., Vyas, N., and Cooper, R.A. *Physical activity classification utilizing SenseWear activity monitor in manual wheelchair users with spinal cord injury*. Journal of Spinal Cord, 51 (9), 705-709: 2013.
14. **Hiremath, S.V.**, Ding, D., Farrington, J., Cooper, R.A. *Predicting energy expenditure of manual wheelchair users with spinal cord injury using a multi-sensor based activity monitor*. Archives of Physical Medicine and Rehabilitation, 93 (11), 1937-1943: 2012.
15. **Hiremath, S.V.** and Ding, D., *Evaluation of activity monitors in manual wheelchair users with paraplegia*. Journal of Spinal Cord Medicine. 34(1), 110-117: 2011.

Peer Reviewed Conference Proceedings

* indicates Mentee or Advisee

16. Islam, N.*, Amiri, A.M., Forlizzi, J., **Hiremath, S.V.** *Automatic mouth detection for self-feeding*. 2018 IEEE Signal Processing in Medicine and Biology Symposium (SPMB) (2018): 01-03. Web.
17. Shoaib, N.*, Amiri, A.M., Thapa-Chhetry, B., Sneathen, G., Schmidt-Read, M., Lamboy, M.R., Intille, S.S., **Hiremath, S.V.**, *Improving physical activity levels of individuals with spinal cord injury in the community*. Rehabilitation Engineering and Assistive Technology Society of North America, Arlington, VA, 2018.
18. Amiri, A.M.*, Shoaib, N., **Hiremath, S.V.** *A framework to enhance assistive technology based mobility tracking in individuals with spinal cord injury*, 5th IEEE Global Conference on Signal and Information Processing: Montreal, Canada, 467-471: 2017.
19. James, K., Wongsirikul, N., **Hiremath, S.**, Tsang, K., and Ding, D., *Usability of physical activity monitoring and sharing system for manual wheelchair users*. Rehabilitation Engineering and Assistive Technology Society of North America (RESNA) Annual Conference, Washington, DC, 2016.
20. Tsang, K., **Hiremath, S.V.**, and Ding, D., *Measuring energy expenditure in manual wheelchair users with an ActiGraph based activity monitor*. RESNA Annual Conference, Denver, CO, 2015.
21. **Hiremath, S.V.**, Yang, G., Mankodiya, K. *Wearable Internet of Things: concept, architectural components and promises for person-centered healthcare*. MOBIHEALTH, Athens, Greece, 304-307: 2014.
22. Tsang, K., **Hiremath, S.V.**, and Ding, D., *Evaluating the energy expenditure prediction models for manual wheelchair users with spinal cord injuries*. RESNA Annual Conference, Indianapolis, IN, 2014.
23. **Hiremath, S.V.**, Ding, D., Okonkwo, C., Hannan, M., and Cooper, R.A., *Validation of a gyroscope based wheel rotation monitor for manual wheelchair users*. RESNA Annual Conference, Seattle, WA, 2013.
24. Ding, D., Soleh, A., **Hiremath, S.V.**, and Parmanto, B., *Physical activity monitoring and sharing platform for manual wheelchair users*. 2012 Annual International Conference of the IEEE Engineering in Medicine and Biology Society (IEEE EMBC), San Diego, CA, 5833-5836: 2012.
25. **Hiremath, S.V.** and Ding, D., *Quantifying physical activity using an ActiGraph in manual wheelchair users with spinal cord injury*. RESNA Annual Conference, Baltimore, MD, 2012.
26. **Hiremath, S.V.** and Ding, D., *Regression equations for RT3 activity monitors to estimate energy expenditure in manual wheelchair users*. IEEE EMBC Annual Conference, Boston, MA, 7348-7351: 2011.
27. Ding, D., **Hiremath, S.V.**, Chung, Y., and Cooper, R.A., *Detection of wheelchair user activities using wearable sensors*. Proceedings of the 6th International Conference on Universal access in human-computer interaction: context diversity, Orlando, FL, 145-152: 2011.

Curriculum Vitae

28. **Hiremath, S.V.** and Ding, D., *Predicting energy expenditure of manual wheelchair users using a wearable device*. RESNA Annual Conference, Toronto, Canada, 2011.
29. Lin, J.T., Ding, D., **Hiremath, S.V.**, Koontz, A., and Cooper, R., *Cross-slope and surface type influence on manual wheelchair propulsion symmetry*. RESNA Annual Conference, Toronto, Canada, 2011.
30. **Hiremath, S.V.** and Ding, D., *Physical activity classification utilizing activity monitors in manual wheelchair users with SCI*. Biomedical Engineering Society Annual Meeting, Austin, TX, 2010.
31. **Hiremath, S.V.** and Ding, D., *Evaluation of activity monitors in estimating energy expenditure in manual wheelchair users*. RESNA Annual Conference, Las Vegas, NV, 2010.
32. Chung, Y., **Hiremath, S.V.** and Ding, D., *Activity classification of manual wheelchair users with wearable sensors*. RESNA Annual Conference, Las Vegas, NV, 2010.
33. Chacon, A., **Hiremath, S.V.** and Ding, D., *Evaluation of the RT3 tri-axial accelerometer to measure physical activity in manual wheelchair users with spinal cord injury*. RESNA Annual Conference, Las Vegas, NV, 2010.
34. Lin, J.T., Ding, D., **Hiremath, S.V.**, Koontz, A., and Cooper, R., *Impact of cross slope and surface type on wheelchair propulsion*. RESNA Annual Conference, Las Vegas, NV, 2010.
35. **Hiremath, S.V.** and Ding, D., *Evaluation of activity monitors to estimate energy expenditure in manual wheelchair users*. IEEE EMBC Annual Conference, Minneapolis, 835-838: 2009.
36. Ding, D., **Hiremath, S.V.** and Kelleher, A., *Using SenseWear armband to evaluate energy expenditure in manual wheelchair users*. 4th International State-of-the-art Congress Rehabilitation: Mobility, Exercise & Sports, Amsterdam, 2009.
37. **Hiremath, S.V.**, Ding, D. and Koontz, A., *Estimating temporal parameters of wheelchair propulsion based on hand acceleration*. RESNA Annual Conference, Washington, DC, 2008.

Book Chapters

38. **Hiremath, S.V.**, Cooper, R.A., Pelleschi, T.L., and Cooper, R., *Wheeled mobility devices*. In P.A. Smith, F. Rauch, and G.F. Harris (Eds.). *Transitional Care in Osteogenesis Imperfecta: Advances in Biology, Technology, and Clinical Practice*. Chicago: Shriners Hospitals for Children; 2015, 301-326.
39. Cooper, R.A., McCue, M., Schein, R.M., Cooper, R., Sporer, M.L., Dodson, M.B., Reinsfelder, A.M., Yeager, A.F., Jinks, A., LoPresti, E., McClure, L., Wang, H., Collinger, J.L., **Hiremath, S.**, Ding, D., Lewis, A., *Assistive technology for people with traumatic brain injuries*. In Nathan Zasler, Douglas Katz, Ross Zafonte, David B. Arciniegas, M. Ross Bullock, Jeffrey S. Kreutzer (Eds.). *Brain Injury Medicine: Principles and Practice*, 2nd edition. New York: Demos Medical Publishing; 2012, 1178-1201.

Consumer Magazine

40. **Hiremath, S.V.** *How much physical activity do you do?* Paraplegia News, October 2012, Paralyzed Veterans of America, 66 (10), 20-21: 2012.

Peer Reviewed Abstracts

* indicates Mentee or Advisee

1. Canori, A.*, Reudiger, M., **Hiremath, S.V.** *Patterns of health conditions associated with multiple hospital readmissions for individuals with spinal cord injury*. American Congress of Rehabilitation Medicine, Dallas, TX, 2018.
2. **Hiremath, S.V.**, Amiri, A.M., Thapa-Chhetry, B., Shoaib, N., Snethen, G., Schmidt-Read, M., Lamboy, M.R., Intille, S.S. *Mobile-health based physical activity intervention for individuals with spinal cord injury in the community*. American Congress of Rehabilitation Medicine, Dallas, TX, 2018.
3. **Hiremath, S.V.**, Amiri, A.M., Chhetry, B.T., Intille, S.S. *m-Health physical activity intervention system for individuals with disability*. mHealth Technology Showcase, National Institutes of Health, Bethesda, MD, 2018.
4. **Hiremath, S.V.**, Chhetry, B.T., Amiri, A.M., Intille, S.S. *A Just-In-Time-Adaptive-Intervention*

Curriculum Vitae

- system for improving physical activity levels of individuals with spinal cord injury*. International Conference on Ambulatory Monitoring of Physical Activity and Movement, Bethesda, MD, 2017.
5. Brusilovskiy, E., Klein, L., Townley, G., Snethen, G., **Hiremath, S.**, Salzer M. Using Global Positioning Systems to measure community mobility and participation among individuals with disability: A validity study. American Public Health Association, Atlanta, GA, 2017.
 6. **Hiremath, S.V.**, Wang, W., Richardson, R.M., Alhourani, A., Lipski, W., Tyler-Kabara, E.C., Boninger, M.L., *Motor and pre-motor cortical activity during attempted, observed, passive and overt movements*. Neuroscience 2017, Washington, DC, 2017.
 7. Skrzat, J., Carp, S., Lauer, R., **Hiremath, S.**, Tucker, C. *A Pilot Study of Muscle fatigue and recovery in patients who are critically ill*. American Thoracic Society's 2017 International Conference, Washington, DC, 2017.
 8. Skrzat, J., Carp, S., Gong, N., Tosto, J., Lauer, R., **Hiremath, S.**, Tucker, C. *Muscle fatigue and recovery in healthy younger and older adults*. American Physical Therapy Association's 2017 Combined Sections Meeting, San Antonio, TX, 2017.
 9. **Hiremath, S.V.**, Intille, S.S., Kelleher, A., Cooper, R.A., Ding D. *Physical activity monitor system to quantify wheelchair-based activities in individuals with spinal cord injury*. NIH, Rehabilitation Research: Moving the Field Forward, Bethesda, MD, 2016.
 10. **Hiremath, S. V.**, Tyler-Kabara, E. C., Wheeler, J. J., Moran, D. W., Gaunt, R. A., Collinger, J. L., Foldes, S. T., Weber, D. J., Chen, W., Boninger, M. L., Wang, W. *Human perception of electrical stimulation on the cortical surface of somatosensory cortex*, Neuroscience 2015, Chicago, IL.
 11. **Hiremath, S. V.**, Tyler-Kabara, E. C., Wheeler, J. J., Moran, D. W., Gaunt, R. A., Collinger, J. L., Foldes, S. T., Weber, D. J., Chen, W., Boninger, M. L., Wang, W. *Use of cortical surface stimulation toward restoration of reliable sensation in human*, 2015 American Congress of Rehabilitation Medicine Annual Conference, Dallas, TX.
 12. **Hiremath, S.V.**, Intille, S.S., Cooper, R.A., and Ding, D. *Quantifying energy expenditure of wheelchair-based physical activities in free-living environments*. Wireless Health, Bethesda, MD, 2014.
 13. **Hiremath, S.V.**, Degenhart, A., Yang, Y., Collinger, J.L., Foldes, S., Tyler-Kabara, E.C., Weber, D.J., Gaunt, R., Boninger, M.L., and Wang, W. *Activation of the human primary motor cortex by sensory inputs in individuals with limb paralysis and implications for brain computer interfaces*. Neuroscience, Washington, DC, 2014.
 14. **Hiremath, S.V.**, Degenhart, A., Yang, Y., Collinger, J.L., Foldes, S., Tyler-Kabara, E.C., Weber, D.J., Gaunt, R., Boninger, M.L., Wang, W. *Use of sensory inputs to train brain computer interface decoders in individuals with limb paralysis*. Neural Interfaces Conference, Dallas, TX, 2014.
 15. Degenhart, A., **Hiremath, S.V.**, Yang, Y., Foldes, S., Collinger, J.L., Boninger, M.L., Weber, D.J., Schwartz, A., Tyler-Kabara, E.C., and Wang, W. *Remapping cortical modulation for brain-machine interfaces: a somatotopy-based approach in individuals with upper-limb paralysis*. Neural Interfaces Conference, Dallas, TX, 2014.
 16. **Hiremath, S.V.**, Ding, D. *Evaluation of a physical activity monitoring system for manual wheelchair users*. International Seating Symposium, Nashville, TN, 2013.
 17. **Hiremath, S.V.**, Ding, D., Goosey-Tolfrey, V., Malone, L.A., Lenton, J., Sindall, P. and Cooper, R.A. *Validation and testing of a wheel rotation datalogger for quantifying activity in manual wheelchair users*, North American Federation of Adapted Physical Activity Conference, Birmingham, AL, 2012.

Research Funding:

- Principal Investigator (Center for Large Data Research and Data Sharing in Rehabilitation, University of Texas Medical Branch; Prime: NIH), *Examining the impact of admission latency and functional status on post-acute outcomes in individuals with spinal cord injury*. (2018-19: 10% Effort).
- Principal Investigator (Craig H. Neilsen Foundation Pilot Grant), *Just-in-time adaptive feedback systems to assist individuals with spinal cord injury*. (2016-19: 14.5% Effort).

Curriculum Vitae

- Principal Investigator (National Science Foundation, Student Travel Grant), *Student Mentoring and Travel Support for the 5th International Conference on Ambulatory Monitoring of Physical Activity and Movement ICAMPAM 2017*. (2017-18: 0% Effort, Supported 10 graduate students in the US to travel to ICAMPAM to present their research and receive mentorship).
- Principal Investigator (Grant-In-Aid, Temple University), *Location based physical activity levels in individuals with spinal cord injury*. (2018: 0%: Supports an undergraduate student researcher at the Personal Health Informatics and Rehabilitation Engineering Laboratory for four months).
- Principal Investigator (Paralyzed Veterans of America Research Foundation Fellowship Grant), *Use of sensory inputs for brain-computer interface training*. (2015: 67%, 2016: 20%).
- Pitt Principal Investigator, Lead Carnegie Mellon University (PI: Jodi Forlizzi) (Google, Inc.), *Shared attention in human-robot collaboration*. (2014-15: 10%).
- Principal Investigator (Mary E. Switzer Research Fellowship from National Institute on Disability and Rehabilitation Research, U.S. Department of Education), *Development of a physical activity monitor system for manual wheelchair users*. (2011-12: 100%).

Honors/Awards/Special Recognition:

- Educators Delegation from Temple University to Zhejiang Normal University, 2019.
- NIH mHealth Training Institute, University of California Los Angeles, Los Angeles, 2017.
- NSF Smart and Connected Health Aspiring Investigators workshop, 2015.
- Training in Grantsmanship for Rehabilitation Research Workshop. Chapel Hill, NC, 2014.
- **Winning Papers** in Rehabilitation Engineering and Assistive Technology Society of North America's Annual Conferences, Student Scientific Paper Competition (2013, 2011, 2010).
- **Honorable Mentions** in Rehabilitation Engineering and Assistive Technology Society of North America Annual Conferences, Student Scientific Paper Competition (2015, 2014, 2010, 2008).
- **Thomas O'Connor PhD Student Award** for 2012, Dept. of Rehabilitation Science and Technology, University of Pittsburgh.
- **First Place**, Perfect Pitch Competition, Quality of Life Technology Engineering Research Center, National Science Foundation Engineering Research Center, 2012.
- The **Ernest Bors Award** for Scientific Development awarded by the American Paraplegia Society, USA, 2011.
- **First Place**, Elevator Pitch Competition along with Soleh Udin Al Ayubi, Research Symposium, Quality of Life Technology Engineering Research Center, 2011.
- **Best Achiever** for the year 2005 from Electrical and Electronics Department, M. S. Ramaiah Institute of Technology, Bangalore, India, 2005.
- Awarded **Second Place** in Student Scientific Paper Competition in "INFLUX 2005" conducted by M. S. Ramaiah Institute of Technology, Bangalore, India, 2005.
- **Best Paper** in SYNCHRO 2003, National Level Technical Symposium conducted by Sri Muthukumaran Institute of Technology, Chennai, India, 2003.

Presentations:

Refereed Conferences

* indicates Mentee or Advisee

- Canori, A*. *Patterns of health conditions associated with multiple hospital readmissions for individuals with spinal cord injury*. American Congress of Rehabilitation Medicine, Dallas, TX, 2018.
- *Mobile-health based physical activity intervention for individuals with spinal cord injury in the community*. American Congress of Rehabilitation Medicine, Dallas, TX, 2018.
- *A framework to enhance assistive technology based mobility tracking in individuals with spinal cord injury*, 5th IEEE Global Conference on Signal and Information Processing: Montreal, Canada, 2017.

Curriculum Vitae

- *Evaluating the energy expenditure prediction models for manual wheelchair users with spinal cord injuries.* RESNA Annual Conference, Indianapolis, IN, 2014.
- *Validation of a gyroscope based wheel rotation monitor for manual wheelchair users.* RESNA Annual Conference, Seattle, WA, 2013.
- *Predicting energy expenditure of manual wheelchair users using a wearable device.* RESNA Annual Conference, Toronto, Canada, 2011.
- *Evaluation of activity monitors in manual wheelchair users with paraplegia.* Annual Meeting of the Academy of Spinal Cord Injury Professionals, Las Vegas, NV, 2011.
- *Evaluation of activity monitors in estimating energy expenditure in manual wheelchair users.* RESNA Annual Conference, Las Vegas, NV, 2010.
- *Physical activity classification utilizing activity monitors in manual wheelchair users with SCI.* Biomedical Engineering Society Annual Meeting, Austin, TX, 2010.

Invited Presentations

- *Mobile-health based physical activity intervention for individuals with spinal cord injury,* Paralyzed Veterans of America Healthcare Summit, Orlando FL, 08/2019.
- *Mobile-health based physical activity intervention for individuals with spinal cord,* Zhejiang University, Hangzhou, China, 06/2019, Host: Dr. Weidong Chen.
- *mHealth based Physical Activity Intervention for Individuals with Spinal Cord Injury in the Community,* Moss Rehab Research Institute's Topics in Rehabilitation Science, MossRehab, Philadelphia, PA, 08/2018, Host: Shailesh Kantak.
- *Mobile-health based physical activity intervention for individuals with spinal cord injury in the community,* Paralyzed Veterans of America Healthcare Summit, Dallas TX, 08/2018.
- *m-Health physical activity intervention system for individuals with disability.* mHealth Technology Showcase, National Institutes of Health, Bethesda, MD, 05/2018.
- *Just-In-Time-Adaptive-Intervention System (JITAI) for Improving Physical Activity in Individuals with Disabilities.* Mini Research Symposium, College of Engineering, Temple University, 05/2018.
- *Mobile-health based Physical Activity Intervention System (PAIS) for individuals with spinal cord injury.* CPH National Public Health Week, College of Public Health, Temple University, 4/2018, Host: Dr. Gina Tripicchio.
- *Mobile Health (mHealth) based Physical Activity Intervention System (PAIS) for Individuals with Spinal Cord Injury* at the College of Nursing and Health Professions, Drexel University, 12/2017, Host: Dr. Margaret Finley.
- *Physical activity intervention system for individuals with spinal cord injury* at Magee Rehabilitation Outpatient Therapy Center – Riverfront clinic. 11/2017, Host: Dr. Carol Owens.
- *Quantifying physical activity towards improving quality of life in individuals with disabilities* at Moss Rehabilitation Hospital, 04/2017, Host: Dr. Wesley Chay.
- *Quantifying physical activity and neural basis of movement towards improving quality of life in individuals with disabilities* at Department of Electrical & Computer Engineering, ECE Department Seminar Series, Temple University, 01/2017, Host: Dr. Fauzia Ahmad.
- *Quantifying physical activity and neural basis of movement towards improving quality of life in individuals with disabilities* at Temple Movement Science Club, Temple University, 02/2016, Host: Dr. Andrew Spence.
- *Quantifying physical activity and neural basis of movement towards improving quality of life in individuals with disabilities* at Department of Physical Therapy, Temple University, 01/2015, Host: Dr. Emily Keshner.
- *Physical Activity Monitor System for Manual Wheelchair Users* at IEEE Engineering in Medicine & Biology Society of Pittsburgh Lecture, 12/2014.
- *Quantifying intentional and actual movements towards improving quality of life of individuals with disabilities* at Personal Robotics Laboratory, Carnegie Mellon University, 07/2014, Host: Dr. Siddhartha Srinivasa.

Curriculum Vitae

- *Development and Evaluation of Physical Activity Monitors for Manual Wheelchair Users* in Human Rehabilitation and Neural Engineering Laboratory, University of Pittsburgh, 02/2013, Host: Dr. Wei Wang.

Other presentations

- **Hiremath, S.V.** and Biradar, A.B., *Gas detection using fuzzy logic for TGS-823*, in INFLUX 2005 conducted by M. S. Ramaiah Institute of Technology, Bangalore, India, 2005.
- **Hiremath, S.V.** and Biradar, A.B., *Fuzzy logic motor control to minimize reactive power intake in a synchronous motor*, in SYNCHRO 2003, National Level Technical Symposium conducted by Sri Muthukumaran Institute of Technology, Chennai, India, 2003.

Teaching and Mentoring:

Instructor: *Neuromotor Science Program, Department of Physical Therapy, Temple University*

- NMS9623: Programming; Spring 2017, Spring 2018.
- NMS9622: Instrumentation; Fall 2017 (co-taught with Dr. Richard Lauer); Fall 2018 (with Drs. Richard Lauer and Carole Tucker).
- PHTH 8137: Evidence Based Practice II; Fall 2018 (co-taught with Dr. Elizabeth Thompson).

Teaching Assistant: *Department of Rehabilitation Science and Technology, University of Pittsburgh*

- HRS2704: Fundamentals of Rehabilitation Engineering and Assistive Technology; Fall 2008.
- HRS2901: Introduction to Research Methodology; Spring 2009 and Fall 2010.

Guest Lecturer

- Department of Bioengineering, University of Pittsburgh, *Wheelchair biomechanics* in BIOENG 1630: Biomechanics 1; Spring 2013, 14, Fall 2015.
- Dept. of Electrical, Computer, & Biomedical Engineering, University of Rhode Island, Kingston, RI, *Clinical Brain-Computer Interfaces* in BME468: Neural Engineering; Spring 2015, 2016, 2017.

Research Mentoring:

Mentoring a postdoctoral fellow and undergraduate students working on research projects at the Personal Health Informatics and Rehabilitation Engineering Laboratory, Temple University.

- Postdoctoral Fellow: Amir Mohammad Amiri (2016-2018).
- Graduate students: Alexandra Canori (2018-present), Sabura Shiffrin (2016), Sara Snell (2016).
- Undergraduate students: Micaela Robalino (2018-2019), Jada-Nicole Goodson (Summer 2018), Najafa Islam (2017-2019), Noor Shoaib (2017-2019), Kimberly Le (2016), Zoe Bermudez (2016).
- High school students: Tigidankay Saccoh (Summer 2017), Steven Ho (Summer 2018), Absalom Hobson (Summer 2019), Ramez Hamad (Summer 2019), Ryan Lehrman (Summer 2019).
- Middle school students: Noelle Lehrman (Summer 2019).

Research Mentoring:

Mentored graduate and undergraduate students working on research projects at the Human Rehabilitation and Neural Engineering Laboratory, University of Pittsburgh.

- Physician Scientist Training Program: Dongning Zhang (2014).
- Undergraduate students: Zachary Wool (2014-15), Shivbaskar Rajesh (2015).

Research Mentoring:

Mentored graduate and undergraduate students who were part of the American Student Placement in Rehabilitation Engineering and Quality of Life Technology research programs,

Curriculum Vitae

University of Pittsburgh.

- Graduate students: KaLai Tsang (2013-2015), Natthasit Wongsirikul (2012- 2014), Sasa Tripathy (2011), Megha Dhawan (2009).
- Undergraduate students: Matthew Hannan (2012-13), Christopher Okonkwo (2012), Josh Davis (2011), Alix Cave (2010), David Berlin (2010), Adriana Chacon (2009).

Doctoral/Master's Committees:

Dissertation Committee

- Julie Skrzat, Temple University (2016-present).

Master's Thesis Committee

- Natthasit Wongsirikul, University of Pittsburgh (08/2012-07/2014).

Education and Outreach:

Assistive Technology Development Workshops 2019

- In collaboration with GEAR UP, Temple University, and Dr. Rochelle Mendonca I organized a three-week 3D assistive technology development workshop for 15 high school students from Benjamin Franklin High School, Philadelphia.

Assistive Technology Development Workshops 2018

- In collaboration with GEAR UP, Temple University, and Dr. Amir Amiri, I organized a two-week assistive technology development workshop with mobile robots simulating power wheelchairs for 20 high school students from Benjamin Franklin and Thomas Alva Edison High Schools, Philadelphia.
- In collaboration with The Franklin Institute, I organized a four-week 3D assistive technology development workshop for 15 high school students who are part of the STEM Scholars program at Franklin Institute.

Assistive Technology and Biomechanics Lecture

- As part of the National Biomechanics Day 2017, I organized a lecture on assistive technology and biomechanics for 20 middle and high school girl students from North Philadelphia.

Assistive Technology Development Workshops 2017

- In collaboration with GEAR UP, Temple University, and Dr. Christopher K. Thompson, I organized a two-week assistive technology development workshop for 10 high school students.
- In collaboration with Franklin Institute, I organized a two-week assistive technology development workshop for 12 high school students from Science Leadership Academy.

Assistive Technology

- I organized a lecture to the volunteers of the Family Friends Program, Temple University, 2017.

Presentations

- Hiremath, S.V., Thompson, C.K. *STEM Education through assistive technology development workshop*, College of Public Health Teaching Symposium, Temple University, 2017.

Professional Societies Affiliation:

Senior Member

- Institute of Electrical and Electronics Engineers (IEEE)

Curriculum Vitae

- IEEE Engineering in Medicine and Biology Society (IEEE-EMBS).

Member

- American Congress of Rehabilitation Medicine (ACRM)
- Rehabilitation Engineering and Assistive Technology Society of North America (RESNA).

Service:

Grant Reviewer

- National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR), Administration for Community Living, U.S. Department of Health and Human Services (2016, 2017, 2019)
- Paralyzed Veterans of America: Fellowships, Clinical/Development pilot grants (2015, 2019)
- Center for Large Data Research and Data Sharing in Rehabilitation, University of Texas Medical Branch, Galveston (2019).

Program Committee

- Big Data Analytics for Internet-of-Things Healthcare, 5th IEEE Global Conference on Signal and Information Processing: Montreal, Canada, 2017.

Standards Committee

- Chair of the Institute of Electrical and Electronics Engineers (IEEE) P1752 *Physical Activity and Mobility Sub-Group*. The sub-group is working with international experts to create Open Mobile-Health Standards.

Journal and Conference Reviewer

- Archives of Physical Medicine and Rehabilitation (2012-Present).
- PLOS One (2019).
- Disability and Health (2019).
- Journal of Biomedical and Health Informatics (2018).
- IEEE Transactions on Neural Networks and Learning Systems (2018).
- Neuroscience Letters (2017-18).
- Journal of Medical Internet Research (2017).
- IEEE Transactions on Neural Systems & Rehabilitation Engineering (2012-13, 15, 17).
- Sensors, MDPI (2016-17).
- Sports Medicine Open (2016-17).
- ACM Interactive, Mobile, Wearable and Ubiquitous Technologies (2017).
- 5th IEEE Global Conference on Signal and Information Processing (2017).
- Journal of Medical Internet Research (2017).
- Medicine & Science in Sports & Exercise (2013, 16, 17).
- IEEE Engineering in Medicine and Biology Conference (2013, 17, 19).
- Human Robot Interaction (2014, 17, 19).
- Future Generation Computer Systems (2016).
- Medical Engineering & Physics (2015-16).
- IEEE International Conference on Smart Computing (SMARTCOMP 2016).
- ACM/IEEE International Conference on Human-Robot Interaction (2015).
- BioMed Research International (2014).
- Journal of Neuroengineering and Rehabilitation (2014).
- Journal of Sports Sciences (2013-15).

Curriculum Vitae

- Journal of Rehabilitation Research & Development (2011-12).
- Assistive Technology Journal (2010-11).
- Advances in Physiotherapy (2010-11).
- IEEE Transactions on Signal Processing (2009-10).
- IEEE International Symposium on Robot and Human Interactive Communication (2013).
- Annual RESNA Conference (2009, 2010, 2012).

University Service

- Organized Human Movement Day 2016 and 2017 to recruit graduate students for Neuromotor Science and Doctoral of Physical Therapy Programs.
- University Marshall, Temple University (2017-present).
- Marketing, Rankings and Visibility work group, Department of Physical Therapy, Temple University (2017-present).
- Senior Member Review Panel (2016), IEEE Admission & Advancement, Philadelphia.
- Vice-Chairman, IEEE Engineering in Medicine and Biology Society, Pittsburgh Section, 2013-15.
- Graduate student recruitment, Dept. of Bioengineering, University of Pittsburgh (2014).
- Quality of Life Technology Engineering Research Center Student Leadership Council, University of Pittsburgh and Carnegie Mellon University: Co-chair (2011-13), Industry Chair (2008-10) and the Education and Outreach Chair (2010-11).
- President, ANKUR Indian Graduate Student Association, University of Pittsburgh, 2008-09.
- Vice-Chairman, M. S. Ramaiah Institute of Technology IEEE Student Branch, 2004-05.

Media:

August 2018

NIH Hosts mHealth Technology Showcase for Health Researchers, Device Developers, NIH Record Newsletter, Vol. LXX, No. 16, pg 3.

Link: https://nihrecord.nih.gov/newsletters/2018/08_10_2018/story4.htm

July 2018

Video: Philadelphia high school students get an early start in robotics

Link: <https://cph.temple.edu/news/video-philadelphia-high-school-students-get-early-start-robotics>

June 2018

Video: Adapting fitness technology to help wheelchair users stay active

Link: <https://cph.temple.edu/news/video-adapting-fitness-technology-help-wheelchair-users-stay-active>

May 2017

PT Faculty Selected for NIH Mobile Health Institute

Link: <https://cph.temple.edu/news/pt-faculty-selected-nih-mobile-health-institute>