

DAN DING, PhD

BIOGRAPHICAL

Work Address:

6425 Penn Avenue, Suite 401
Dept. of Rehabilitation Science and Technology
University of Pittsburgh
Pittsburgh, PA 15206

E-mail Address: dad5@pitt.edu**Work Phone:** 412-624-1964

EDUCATIONAL AND TRAINING

UNDERGRADUATE:

09/1991	Harbin Institute of Technology Harbin, China	Bachelor of Engineering 1995	Mechanical Engineering
09/1993	Harbin Institute of Technology Harbin, China	Bachelor of Arts 1997	English

GRADUATE:

09/1998	The Chinese University of Hong Kong, Hong Kong, China Harbin, China	Doctor of Philosophy 2001	Mechanical and Automation Engineering
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POSTGRADUATE:

11/2001	University of Pittsburgh Pittsburgh, PA	Postdoctoral Fellow 2004	Rehabilitation Engineering
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APPOINTMENTS AND POSITIONS

01/2022–Present	Dept. of Rehabilitation Science and Technology School of Health and Rehabilitation Sciences University of Pittsburgh	Vice Chair for Research
02/2016–Present	VA Pittsburgh Healthcare System Pittsburgh, PA	Research Biomedical Engineer (5/8 th)
05/2015–Present	Dept. of Rehabilitation Science and Technology School of Health and Rehabilitation Sciences University of Pittsburgh	Tenured Associate Professor
05/2015–Present	Dept. of BioEngineering School of Engineering University of Pittsburgh	Associate Professor (Secondary appointment)

05/2015–Present	McGowan Institute for Regenerative Medicine School of Medicine University of Pittsburgh	Associate Professor (Secondary appointment)
09/2014–08/2018	Master of Rehabilitation Technology Dept. of Rehabilitation Science and Technology School of Health and Rehabilitation Sciences University of Pittsburgh	Program Director
12/2013–04/2015	Dept. of Rehabilitation Science and Technology School of Health and Rehabilitation Sciences. University of Pittsburgh	Associate Professor (Tenure-Track)
01/2008–11/2013	Dept. of Rehabilitation Science and Technology School of Health and Rehabilitation Sciences. University of Pittsburgh	Assistant Professor (Tenure-Track)
01/2008–11/2013	Dept. of BioEngineering School of Engineering University of Pittsburgh	Assistant Professor (Secondary appointment)
01/2008–11/2013	McGowan Institute for Regenerative Medicine. School of Medicine University of Pittsburgh	Assistant Professor (Secondary appointment)
11/2001–01/2016	Human Engineering Research Laboratories VA Pittsburgh Healthcare System Pittsburgh, PA	Research Scientist (WOC)
09/2004–12/2007	Dept. of Rehabilitation Science and Technology School of Health and Rehabilitation Sciences. University of Pittsburgh	Assistant Professor (Appointment Stream)
11/2001–08/2004	Dept. of Rehabilitation Science and Technology School of Health and Rehabilitation Sciences University of Pittsburgh	Postdoctoral Fellow
09/1998–10/2001	Dept. of Mechanical and Automation Engineering The Chinese University of Hong Kong Hong Kong, China	Research/Teaching Assistant
09/1995–09/1998	Robotics Institute Harbin Institute of Technology Harbin, China	Research Assistant

MEMBERSHIP IN PROFESSIONAL AND SCIENTIFIC SOCIETIES

Member of American Congress of Rehabilitation Medicine	2019-present
Member of American College of Sports Medicine	2018-present
Member of International Society for the Measurement of Physical Behavior	2018-present

Member of Institute of Electrical and Electronics Engineers (IEEE)	2002-present
Member of IEEE Engineering in Medicine and Biology Society	2002-present
Member of Rehabilitation Engineering and Assistive Technology Society of North America (RESNA)	2002-present

HONORS

The SHRS Interprofessional Education Seed Award	2023
The University of Pittsburgh Innovator Award	2019
Distinguished Service Award, Human Engineering Research Laboratories 25-year Anniversary Celebration	2019
Outstanding Alumni Award, Dept. of Mechanical and Automation Engineering, The Chinese University of Hong Kong, Hong Kong, China	2014
Paralyzed Veterans of America (PVA) Research Fellowship, PVA Research Foundation	2005
Mary Switzer Fellowship, National Institute of Disability Research and Rehabilitation, Department of Education	2004
Honorary Mention for Outstanding Dissertation, the Chinese University of Hong Kong, Hong Kong, China	2002
Travel Award, IEEE International Conference on Robotics and Automation	2000
Travel Award, IEEE/RSJ International Conf. on Intelligent Robot and System	2000
Travel Award, IEEE/RSJ International Conf. on Intelligent Robot and System	1999
Graduate Student Fellowship, the Chinese University of Hong Kong, China	1998-2001

STUDENT/MENTEE AWARDS

VA Career Development Award I (Breelyn Styler)	2023
Pitt SHRS Interprofessional Education Seed Award (Telsa Knight)	2023
SHRS's McMurtry Family Undergraduate Research Runner-up Award (Yifan Xiang)	2023
Best Poster Presentation Award, Pitt Postdoctoral Data & Dine Symposium (Breelyn Styler)	2022
Winner of the VAPHS Research Week Poster Contest Styler B, Chung CS, and Ding D. Performance metrics and software design of a modular vision-guided assistive robotic arm system for multi-action kitchen tasks. <i>The VAPHS Research Week.</i>	2022
Winner of the Best Rehabilitation Research in the Post-Doctoral Category Styler B, Chung CS, and Ding D. Performance metrics and software design of a modular vision-guided assistive robotic arm system for multi-action kitchen tasks. <i>The UPMC Rehabilitation Institute Research Day.</i>	2022
SHRS 3MT Thesis Competition Winner (Akhila Veerubhotla)	2019
2 nd place in the Pitt Randall Big Idea Competition (KaLai Tsang)	2018
Finalist in an international business case competition for graduate students (KaLai Tsang)	2018

3 rd Place in the Pitt Kuzneski Cup Competition (Hyun Ka)	2017
Winner of the Student Scientific Paper Competition Tsang KL, Yong HJ, Rimmer J, and Ding D, Measuring heart rate in manual wheelchair users during exercise and free-living activity with the latest Fitbit Surge Monitor, <i>RESNA</i> .	2016
Craig Neilsen Foundation's Fellowship (Hyun Ka)	2015
Winner of the Student Scientific Paper Competition Tsang KL, Hiremath S, and Ding D, Measuring energy expenditure in manual wheelchair users with Actigraph Monitor, <i>RESNA</i> .	2015
Honorable Mention of the Student Scientific Paper Competition Tsang KL, Hiremath S and Ding D, Evaluating the energy expenditure prediction models for manual wheelchair users with spinal cord injuries, <i>RESNA</i> .	2014
NSF IGERT Fellowship (KaLai Tsang)	2013-2017
Finalist of the Student Scientific Paper Competition Hiremath S, Ding D, Copper R, Hannan M, and Okonkwo Christopher, Validation of a gyroscope-based wheel rotation monitor for manual wheelchair users, <i>RESNA</i> .	2013
RST's Thomas O'Connor PhD Student Award (Shivayogi Hiremath)	2012
NIDRR's Switzer Research Fellowship (Shivayogi Hiremath)	2011
Ernest Bors Award for Scientific Development Hiremath S and Ding D, Evaluation of activity monitors in manual wheelchair users with paraplegia. <i>Journal of Spinal Cord Medicine</i> , 34(1): 110-7, 2011.	2011
Winner of the PVA Student Scientific Paper Competition Hiremath S and Ding D, Predicting energy expenditure of manual wheelchair users using a wearable device, <i>RESNA</i> .	2011
Winner of the PVA Student Scientific Paper Competition Hiremath S and Ding D, Evaluation of activity monitors in estimating energy expenditure in manual wheelchair users, <i>RESNA</i> .	2010
Honorable Mention of the PVA Student Scientific Paper Competition Chacon A, Hiremath S, and Ding D, Evaluation of the RT3 tri-axial accelerometer to measure physical activity in manual wheelchair users with spinal cord injury, <i>RESNA</i> .	2010
Winner of the PVA Student Scientific Paper Competition Wang H, Salatin B, Grindle GG, Ding D, and Cooper RA, Real-time slip detection and traction control of electrical powered wheelchairs, <i>RESNA</i> .	2009
Winner of the PVA Student Scientific Paper Competition Souza A, Ding D, Cooper RM, Cooper RA, Kelleher AR, and Boninger ML, Impact and usage of pushrim activated power assist wheelchair among individuals with tetraplegia, <i>RESNA</i> .	2008
Honorable Mention of the PVA Student Scientific Paper Competition	2008

Hiremath S, Ding D, and Koontz AM, Estimating temporal parameters of wheelchair propulsion based on hand acceleration, *RESNA*.

Honorable Mention of the PVA Student Scientific Paper Competition 2008
Ambur V, Ding D, Smailagic A, Siewiorek D, French B, Koontz AM, Accelerometry-based classification of wheelchair propulsion patterns using machine learning techniques, *RESNA*.

PUBLICATIONS

* Denotes papers from students or postdoctoral fellows advised by Dr. Ding

Peer-Reviewed Journal Publications

1. Fairman A, Walko F, **Ding D**, Morris L, Boateng J, Murphy K, and Terhorst L. Reliability and validity testing of the ASSIST Functional Performance Index. *Assistive Technology*.
2. Polfuss M, Bandini LG, Ravelli MN, Huang Z, Moosreiner A, Schoeller DA, Huang CC, **Ding D** etc. Energy expenditure and weight-related behaviors in youth with down syndrome, a protocol. *Frontiers*. Accepted.
3. **Ding D** and Morris L. Provider perspectives on providing mainstream smart home technology as assistive technology. *Assistive Technology Outcomes and Benefits (ATOB)*. 2023; 17: 43-56.
4. Rigot SK, Boninger ML, **Ding D**, Collinger JL, Dicianno B, and Worobey LA. Limb accelerations during sleep are related to measures of strength, sensation, and spasticity among individuals with spinal cord injury. *Journal of NeuroEngineering and Rehabilitation*. 2022; 19(1):118.
5. **Ding D**, Styler B, Chung CS, and Houriet A. Development of a vision-guided share control system for assistive robotic manipulators. *Sensors*. 2022; 22(12): 4351.
6. *Shwetar YJ, Huang M, Veerubhotla AL, Knezevic S, Hong E, Spungen A, and **Ding D**. Predicting physical activity intensity using raw accelerometer signals in manual wheelchair users with spinal cord injury. *Spinal Cord*. 2022; 60(2): 149-156.
7. Rigot SK, Boninger ML, **Ding D**, McKernon G, Field-Note EC, Hoffman J, Hibb R, and Worobey LA. Towards improving the prediction of functional ambulation after spinal cord injury through the inclusion of limb acceleration during sleep and personal factors. *Achieve Physical Medicine and Rehabilitation*. 2022; 104(4): 676-687.
8. **Ding D**, Morris L, Messina K, and Fairman A. Providing mainstream smart home technology as assistive technology for persons with disabilities: a qualitative study with professionals. *Disability and Rehabilitation: Assistive Technology*. 2021; online ahead of print.
9. *Veerubhotla AL, Schwetar YJ, Knezevic S, Spungen A, and **Ding D**. Estimation of physical activity intensity in spinal cord injury using a wrist-worn ActiGraph monitor. *Archives Physical Medical and Rehabilitation*. 2020; 101(9): 1563-9.
10. *Shwetar YJ, Veerubhotla AL, Huang Z, and **Ding D**. Comparative validity of energy expenditure prediction algorithms using wearable devices for people with spinal cord injury. *Spinal Cord*. 2020; 58:821-30.
11. Cooper RA, William R, Duvall J, **Ding D**, Marino DJ, Grindle GG, and Cooper R. How to make science, technology and engineering laboratories accessible: Human Engineering Research Laboratories Initiatives. *Journal of Rehabilitation Engineering Society of Japan*. 2019; 34(4): 126-136.
12. *Wang J, Mahajian HP, Toto PE, McCue MP, and **Ding D**. Feasibility of an automatic prompting system in assisting people with traumatic brain injury in cooking tasks. *Disability and Rehabilitation: Assistive Technology*. 2019; 14(8): 817-825.
13. *Liu HY, Chia RM, Setiawan MA, Crytzer TM, and **Ding D**. Development of “My Wheelchair Guide” app: a qualitative study. *Disability and Rehabilitation: Assistive Technology*. 2019; 14(8): 839-848.

14. *Ka HW, Chung JS, **Ding D**, James K, and Cooper RA. Performance evaluation of 3D vision-based semi-autonomous control method for assistive robotic manipulator. *Disability and Rehabilitation: Assistive Technology*. 2018; 13(2):140-145.
15. Cooper RA, Tuakli-Wosornu YA, Henderson GV, Quinby E, Dicianno BE, Tsang K, **Ding D**, Cooper R, Crytzer TM, Koontz AM, Rice I, and Bleakney AW. Engineering and technology in wheelchair sports. *Phys Med Rehabil Clin N Am*. 2018; 29(2): 347-69.
16. McKeon AB, Terhorst L, **Ding D**, Cooper R, and McCue M. Naturalistic physiological monitoring as an objective approach for detecting behavioral dysfunction after traumatic brain injury: a pilot study. *Journal of Vocational Rehabilitation*. 2018; 49(3): 379-88.
17. McKeon AB, Terhorst L, Elizabeth S, **Ding D**, Cooper R, and McCue M. A novel tool for naturalistic assessment of behavioral dysregulation after traumatic brain injury: A pilot study. *Brain Injury*. 2017; 31(13-14): 1781-90.
18. Chung JS, Wang H, Hannan MJ, **Ding D**, Kelleher AR, and Cooper RA, Task-oriented performance evaluation for assistive robotic manipulator: a pilot study. *American Journal of Physical Medicine and Rehabilitation*. 2017; 96(6): 395-407.
19. Sundaram MA, Wang HW, **Ding D**, and Cooper RA. Step-climbing power wheelchairs: a literature review. *Topics in Spinal Cord Injury Rehabilitation*. 2017; 2392: 98-109.
20. Chung JS, Ka H, Wang H, **Ding D**, Kelleher AR, and Cooper RA. Performance evaluation of a mobile touchscreen interface for assistive robotic manipulators: a pilot study. *Topics in Spinal Cord Injury Rehabilitation*. 2017; 23(2): 131-9.
21. Wu YK, Liu HY, Kelleher A, Pearlman J, **Ding D**, and Cooper R. Power seat function usage and wheelchair discomfort for power wheelchair users. *J. Spinal Cord Med*. 2017; 40(1): 62-9.
22. *Wang J, **Ding D**, Teodorski E, Mahajan HP, and Cooper R. Use of assistive technology for cognition among people with traumatic brain injury: a survey study. *Military Medicine*. 2016; 181(6): 560-6.
23. *Tsang K, Hiremath S, Crytzer T, Dicianno B, and **Ding D**. Validity of activity monitors in wheelchair users: a systematic review. *Journal of Rehabilitation Research and Development*. 2016; 53(6): 641-658.
24. Mhatre A, Duvall J, **Ding D**, Cooper R, and Pearlman J. Design and focus group evaluation of a bed-integrated weight management system for wheelchair users. *Assistive Technology*. 2016; 28(4): 193-201.
25. *Hiremath S, Intellie S, Kelleher A, Cooper R, and **Ding D**. Estimation of energy expenditure of wheelchair users using a physical activity monitoring system. *Archives of Physical Medicine and Rehabilitation*. 2016; 97(7): 1146-1153.
26. *Ka HW, **Ding D**, and Cooper RA. Three dimensional computer vision-based alternative control method for assistive robotic manipulator. *International Journal of Advanced Robotics and Automation*. 2016; 1(1): 1-6.
27. *Tsang K, Hiremath S, Cooper RA, and **Ding D**. Evaluation of custom energy expenditure models for SenseWear armband in manual wheelchair users. *Journal of Rehabilitation Research and Development*. 2015; 52(7): 793 – 804.
28. *Ka HW, **Ding D**, and S Ravishankar. Computer access technologies for controlling assistive robotic manipulators: potential and challenges. *Austin Journal of Robotics and Automation*. 2015; 2(1): 1007.
29. Koontz A, **Ding D**, Jan YK, Groot S, and Hansen A. Wheeled Mobility. Editorial, *Biomed Research International*, 2015.
30. *Hiremath S, Intille SS, Kelleher A, Cooper RA, and **Ding D**. Detection of physical activity using a physical activity monitor system in manual wheelchair users. *Medical Engineering and Physics*. 2015; 37(1): 68-76.
31. **Ding D**, Rodriguez SP, Cooper RA, and Riviere CN. Improving target acquisition for computer users with athetosis. *Assistive Technology*. 2015; 27(1):52-8.

32. Kasemsuppakorn P, Karimi H, **Ding D**, and Ojeda AM. Understanding route choices for wheelchair navigation. *Disability and Rehabilitation: Assistive Technology*. 2015; 10(3): 198-210.
33. *Ojeda M and **Ding D**. Temporal parameters estimation for wheelchair propulsion using wearable sensors. *Biomed Research International*. 2014; Epub.
34. Soleh A, Parmanto B, Branch R., and **Ding D**. A persuasive and social mHealth application for physical activity: usability and feasibility. *JMIR MHEALTH and UHEALTH*. 2014; 2(2):e25.
35. *Hiremath S., **Ding D**, Farrington J, Vyas N, and Cooper RA. Physical activity classification utilizing SenseWear activity monitor in manual wheelchair users with spinal cord injury. *Spinal Cord*. 2013; 51(9): 705-9.
36. *Hiremath S, **Ding D**, and Cooper RA. Development and evaluation of a gyroscope based wheel rotation monitor for manual wheelchair users. *Journal of Spinal Cord Medicine*. 2013; 36(4): 347-56.
37. Mahajan H, Dicianno BE, **Ding D**, and Cooper RA. The Assessment of wheelchair driving performance in a virtual reality based simulator. *Journal of Spinal Cord Medicine*. 2013; 36(4): 322-32.
38. Wang H, Candiotti J, Motoki S, Chung CS, Grindle GG, **Ding D**, and Cooper RA. Development of an advanced mobile base for personal mobility and manipulation appliance generation II robotic Wheelchair. *Journal of Spinal Cord Medicine*. 2013; 36(4): 333-46.
39. Wang H, Xu J, Kelleher AR, **Ding D**, Grindle GG, Vazquez J, Salatin B, and Cooper RA. Performance evaluation of the Personal Mobility and Manipulation Appliance (PerMMA). *Medical Engineering and Physics*. 2013; 35(11): 1613-9.
40. *Hiremath S, **Ding D**, and Farrington J. Predicting energy expenditure of manual wheelchair users with spinal cord injury using a multisensor-based activity monitor. *Archives of Physical Medicine and Rehabilitation*. 2012; 93(11): 1937-43.
41. **Ding D**, Cooper RA, Pasquina PF, and Fici-Pasquina L. Sensor technology for smart homes. *Maturitas*. 2011; 69(2): 131-6.
42. *Hiremath S and **Ding D**. Evaluation of activity monitors in manual wheelchair users with paraplegia. *Journal of Spinal Cord Medicine*. 2011; 34(1): 110-7.
43. Karmarkar A, Collins DM, Kelleher A, **Ding D**, Oyster M, and Cooper RA. Manual wheelchair-related mobility characteristics of older adults in nursing homes. *Disability and Rehabilitation: Assistive Technology*. 2011; 5(6): 428-37.
44. Cooper RA, Koontz AM, **Ding D**, Kelleher AR, Rice I, and Cooper RM. Manual wheeled mobility: current and future developments from the human engineering research laboratories. *Disability and Rehabilitation*. 2010; 32(26): 2210-21.
45. Liu HY, Cooper RM, Cooper R, Smailagic A, Siewiorek D, **Ding D**, and Chung FC. Seating virtual coach: a smart reminder for power seat function usage. *Technology and Disability*. 2010; 22(1-2): 53-60.
46. **Ding D**, Liu HY, Cooper RM, Cooper RA, Smailagic A, and Siewiorek D. Virtual coach technology for supporting self-care. *PM&R Clinics of North America*. 2010; 21(1): 179-94.
47. Wang H, Salatin B, Grindle GG, **Ding D**, and Cooper RA. Real-time model based electrical powered wheelchair control, *Medical Engineering and Physics*. 2009; 31(10): 1244-54.
48. **Ding D**, Leister L, Cooper RA, Cooper R, Kelleher A, Fitzgerald S, and Boninger M. Usage of tilt-in-space, recline, and seat elevation functions in natural environment of wheelchair users. *JRRD*. 2008; 45(7): 973-84.
49. **Ding D**, Souza A, Fitzgerald S, Cooper RA, Cooper R, Kelleher A, and Boninger M. Impact of pushrim activated power assist wheelchairs among individuals with tetraplegia. *American Journal of Physical Medicine and Rehabilitation*. 2008; 87(10): 821-9.
50. Cooper RA, Tolerico M, Kaminski BA, Spaeth D, **Ding D**, and Cooper R. Quantifying wheelchair activity of children: a pilot study. *American Journal of Physical Medicine and Rehabilitation*. 2008; 87(12): 977-83.

51. Cooper RA, Dicianno BE, Brewer B, LoPresti E, **Ding D**, Simpson RC, Grindle GG, and Wang H. A perspective on intelligent devices and environments in medical rehabilitation. *Medical Engineering and Physics*. 2008; 30(1): 1387-98.
52. *Tolerico ML, **Ding D**, Cooper RA, Spaeth DM, Fitzgerald SG, Cooper R, and Kelleher A, Boninger ML. Assessing the mobility characteristics and activity levels of manual wheelchair users. *JRRD*. 2007; 44(4): 561-72.
53. Cooper RA, Cooper R, Tolerico M, Guo S, **Ding D**, and Pearlman J. Advances in electric powered wheelchairs, *Topics in Spinal Cord Injury Rehabilitation*. 2006; 11(4): 15-29.
54. Cooper RA, Boninger ML, Spaeth DM, **Ding D**, Guo S, Koontz AM, et al. Engineering better wheelchairs to enhance community participation. *IEEE Transactions on Neural Systems and Rehabilitation Engineering*. 2006; 14(4): 438-55.
55. **Ding D** and Cooper RA. Electric powered wheelchairs - A review of the current technology and state of electric powered wheelchairs. *IEEE Control Systems Magazine*. 2005; 25(2): 22-34.
56. Cooper RA, **Ding D**, Simpson RC, Fitzgerald SG et al. Virtual reality and computer enhanced training applied to wheeled mobility: an overview of work in Pittsburgh. *Assistive Technology*, Vol. 17, No. 2, pp. 159-70, 2005.
57. Simpson RC, LoPresti E, Hayashi S, Guo S, **Ding D**, et al. A prototype power assist wheelchair that provides for obstacle avoidance for those with visual impairments. *Journal of Neuroengineering and Rehabilitation*. 2005; 2(1):30.
58. **Ding D**, Cooper RA, Guo SF, and Corfman TA. Analysis of driving backwards in an electric-powered wheelchair. *IEEE Transactions on Control Systems Technology*. 2004; 12(6): 934-43.
59. Liu YH, Lam ML, and **Ding D**. A complete and efficient algorithm for searching 3-D form-closure grasps in discrete domain. *IEEE Transactions on Robotics*. 2004; 20(5): 805-16.
60. **Ding D**, Cooper RA, Kamniski BA, Kanaly JR, Allegretti A, Chaves E, and Hubbard S. Integrated control of assistive devices. *Assistive Technology*. 2003; 15(2): 89-97.
61. Guo SF, Cooper RA, Corfman TA, and **Ding D**. Influence of wheelchair front caster wheel on the reverse driving stability. *Assistive Technology*. 2003; 15(2): 98-104.
62. **Ding D**, Liu YH, and Wang SG. Computation of 3D form-closure grasps. *IEEE Transactions on Robotics and Automation*. 2001; 17(4): 515-22.
63. **Ding D**, Liu YH, Wang MY, and Wang SG. Automatic selection of fixturing surfaces and fixturing points for polyhedral workpieces. *IEEE Transactions on Robotics and Automation*. 2001; 17(6): 833-41.
64. **Ding D**, Liu YH, and Wang SG, The synthesis of 3D form-closure grasps. *Robotica*. 2000; 18(1): 51-8.

Book Chapters

1. Hefley B, **Ding D**, Rosenbaum A, Kiniry M, Somma J, Berry S, et al. "Translating Smart Kitchen Technologies from the Lab to the Home." *Academic Entrepreneurship: Translating Discoveries to the Marketplace*, edited by Philip H. Phan, Edward Elgar, 2016, pp. 7-36.
2. Cooper RA, McCue M, Schein RM, Cooper RM, Sporer ML, Dodson MB, Reinsfelder AM, Yeager AF, Jinks A, LoPresti E, McClure L, Wang H, Collinger JL, Hiremath S, **Ding D**, and Lewis A. "Assistive Technology for People with Traumatic Brain Injuries." *Brain Injury Medicine*, edited by Nathan D Zasler, Douglas I Katz et al., Springer, 2012, pp. 1178-1201.
3. **Ding D**, Simpson R, Matsuoka Y, and LoPresti E. "Rehabilitation Robotics." *An Introduction to Rehabilitation Engineering*, edited by Rory A Cooper, Hisaichi Ohnabe, and Douglas A Hobson, Taylor & Francis Press, 2007, pp. 211-237.
4. Koontz AM, **Ding D**, Spaeth DM, Schmelzer MR, Cooper RA. "Prescription of Wheelchairs and Seating Systems." *Physical Medicine and Rehabilitation*, Elsevier Limited, UK, 2006, pp. 381-411.
5. Cooper RA, **Ding D**, Kwarciak AM, et al., "Wheelchair Engineering." *Wiley Encyclopedia of Biomedical Engineering*, John Wiley and Sons Inc., 2006.

6. Cooper RA, **Ding D**, Cooper R, et al., “Overview of Rehabilitation Engineering.” Wiley Encyclopedia of Biomedical Engineering, John Wiley and Sons Inc., 2006.
7. Liu YH, **Ding D**, and Lam LM, “3-D Grasp Analysis and Synthesis using the Ray-Shooting Technique.” Robotics Welding, Intelligence and Automation, Lecture Notes in Control and Information Sciences, Springer-Verlag Press, 2004, pp. 80-109.

Peer Reviewed Conference Abstracts, Workshops and Papers

1. Wang E, Styler B, and **Ding D**. Qualitative analysis of control perceptions from current robotic arm owners [abstract], *Rehab Institute Research Day*. 2013 June 14. Pittsburgh PA. Accepted.
2. Wang E, Styler B, and **Ding D**. Autonomous or manual control? qualitative analysis of control perceptions from current robotic arm owners [paper]. *IEEE International Conference on Robot and Human Interactive Communication*. 2023 August 28-31; Busan, Korea. Accepted.
3. Fairman A, Morris L, and Ding D. Application of the cognitive orientation to daily occupational performance approach (CO-OP) to training in the service delivery of mainstream smart home technologies [abstract]. *The International Conference of the Association for the Advancement of Assistive Technology in Europe (AAATE)*. 2023 August 30-Sept 1st. Paris, France. Accepted.
4. Morris L, Laudermilch B, and **Ding D**. Reveling the potential of mainstream smart home technologies for persons with disabilities through research and resources [workshop]. In *Rehab and Community Providers Association Conference*. 2023 October 10-13. Harrisburg PA. Accepted.
5. Chung J, Styler B, Wang E, and **Ding D**. Robotic assistance in action: examining control methods for long-term owners of wheelchair-mounted robotic arms [paper]. In: *Proceedings of Rehabilitation Engineering and Assistive Technology Society of North America (RESNA)*. 2023 July 24-26; New Orleans, LA. Accepted.
6. Styler B, Wang E, and **Ding D**. A life-changing benefit: qualitative perspectives from Kinova JACO robotic arm owners. *VA Research Week*. 2023 May 15. Pittsburgh PA.
7. Faieta J, Bobar T, **Ding D**, Pearlman J, and Handler S. Technology evaluation to enhance telehealth usability and effectiveness, *VA Research Week*. 2023 May 15. Pittsburgh PA.
8. Chung JS, **Ding D**, and Styler B. Improving the control interface for assistive robotic manipulations: manual to autonomous [workshop]. In: *International Seating Symposium*. 2023 April 13-15; Pittsburgh PA.
9. Polfuss M, Bandini L, Caudill C, Dicianno B, **Ding D**, et al. Body composition and energy expenditure in youth with spina bifida: a study protocol. *Spina Bifida Association World Congress*, 2023 March 22-25. Tuscon, AZ.
10. Vasquez S, Hill Kayta, and **Ding D**. Unlocking my AAC to control my home [workshop]. In: *Assistive Technology Industry Association Annual Conference*. 2023 Jan 31-Feb 4; Orlando FL.
11. Fairman A, Morris L, and **Ding D**. Demonstration of a service delivery model for mainstream smart home technology [workshop], In: *Assistive Technology Industry Association Annual Conference*. 2023 Jan 31-Feb 4; Orlando FL.
12. *Huang Z, McCoy D, Cooper R, Crytzer T, and **Ding D**. Preliminary feasibility evaluation of a mHealth app to promote physical activity in manual wheelchair users [abstract]. In: *Archives of Physical Medicine and Rehabilitation*. 2023; 104(3): e45. *American Congress of Rehabilitation Medicine (ACRM)*. 2022 Oct 30-Nov 2; Chicago IL.
13. *Huang Z, Shwetar Y, Veerubhotla A, **Ding D**. Development of a wearable device-based energy expenditure prediction model for manual wheelchair users [abstract]. In: *Proceedings of PVA Healthcare Summit + Expo*. 2022 August 28-31; Orlando FL.
14. **Ding D**, Tachau S, Hernandez R, and Morris L, Strategies and tools for promoting smart home technology in people with disabilities [workshop]. In: *Rehabilitation Engineering and Assistive Technology Society of North America (RESNA) Annual Conference*. 2022 July 13-15; Virtual.

15. *Styler B, Chung J, Houriet A, and **Ding D**. Software design of an assistive robotic manipulator for versatile control authority in multi-action manipulation tasks [paper]. In: *Proceedings of Rehabilitation Engineering and Assistive Technology Society of North America (RESNA)*. 2022 July 13-15; Virtual.
16. *Huang Z, Moosreiner A, Polfuss M, **Ding D**. Classifying activity intensity in children with spina bifida based on wrist-worn ActiGraph [abstract]. In: *Proceedings of the 8th International Conference on Ambulatory Monitoring of Physical Activity and Movement*. 2022 June 21-24; Denver CO.
17. **Ding D**, Morris L, and Houriet A. Mainstream smart home technologies for people with physical disabilities [workshop]. In: *International Seating Symposium*. 2022 Jan 31-Feb 2; Pittsburgh PA
18. **Ding D**, Morris L, Houriet A, and Chung J. Development of a multi-modal smart home technology demonstration station [workshop]. In: *Assistive Technology Industry Association Annual Conference*. 2022 Jan 26-29; Virtual.
19. *Huang Z, Shwetar Y, Veerubhotla A, **Ding D**. Development of a Wearable Device-Based Energy Expenditure Prediction Model for Manual Wheelchair Users [abstract]. *PVA Summit 2021*.
20. *Huang Z, Crytzer T, Morris L, McCoy D, and **Ding D**. Feasibility of a mHealth app to promote physical activity in people with SCI: a case study [paper]. In: *Proceedings of Rehabilitation Engineering and Assistive Technology Society of North America (RESNA)*. 2021 July 7-9; Virtual.
21. *Morris L, **Ding D**, and Fairman A. Development of ASSIST service delivery model for use of smart home technology as assistive technology [workshop], In: *RESNA*. 2021.
22. **Ding D**, Morris L, and Fairman A. Development of ASSIST checklist for use of smart home technology as assistive technology [workshop]. In: *Assistive Technology Industry Association Annual Conference*. 2021 Jan 25-28; Virtual.
23. *Huang Z, Shwetar Y, Veerubhotla A, Ding D. Development and evaluation of wearable devices-based physical activity intensity classification models in manual wheelchair users with spinal cord injury [abstract]. In *Proceedings of ISMPB*. 2021.
24. *Morris L, **Ding D**, Fairman A, and Messina K. Providing mainstream smart home technologies as assistive technology for persons with disabilities: current trends and needs. In *the American Journal of Occupational Therapy*, 2021; 75 (Supplement_2). *AOTA*. 2021.
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Non-Peer Reviewed Articles

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PROFESSIONAL ACTIVITIES

TEACHING

Training Grants

Role Grant Number	Title of Project	Project Period	Amount & Effort
Current Grants			
Role: Training Faculty NIH T32 NR008857	Technology Research in Chronic and Critical Illness	9/21/22 6/30/27	-----
Role: PI 90ARCP0007 ACL/NIDILRR	Advanced Rehabilitation Research Training: Career Advancement in Assistive Tech Practice, Research, and Policy (CAT-PReP)	6/1/23- 5/31/28	\$999,933 (7%)
Prior Grants			
Role: PI 90AR5021 ACL/NIDILRR	Advanced Rehabilitation Research Training: Career Advancement for Engineers in the Science of Rehabilitation (CAESOR)	10/1/14- 9/30/19	\$750,000 (8.33%)
Role: PI NSF EEC1358903	Quality of Life Research Experience for Undergraduates Veterans Supplement	4/1/14- 3/31/17	\$20,000 (0%)
Role: PI NSF EEC 1358903	Research Experiences of Undergraduates in Quality of Life Technology	3/1/14 – 2/28/17	\$345,739 (0%)
Role: Co-PI NSF DGE1144584	IGERT: Interdisciplinary Research Training in Rehabilitation Science and Engineering	7/1/12 – 6/30/17	\$2,993,020 (10%)
Role: PI NSF HRD1128797	The Quality of Life Technology Model for Graduating and Transitioning Postsecondary Students with Disabilities in STEM	1/1/12- 12/31/13	\$199,850 (0%)
Role: PI RSA H129E100001 Dept. of Education	Rehabilitation Long-Term Training – Rehabilitation Technology	10/1/10 – 9/30/15	\$500,000 (8.33%)
Role: PI NIDRR H133P090010 Dept. of Education	Advanced Rehabilitation Research Training: Career Advancement for Engineers in the Science of Rehabilitation (CAESOR)	10/1/09 – 9/30/14	\$749,823 (8.33%)
Role: PI NSF EEC 1063017	Research Experiences of Undergraduates in Quality of Life Technology	5/1/11 – 4/30/14	\$356,700 (0%)
Role: Co-PI NSF EEC 0755184	Research Experiences of Undergraduates in Quality of Life Technology	5/1/08 – 4/30/10	\$238,500 (0%)
Role: Co-PI	Research Experiences of Undergraduates in	6/1/07 –	\$63,000

NSF EEC 0540865	Quality of Life Technology	5/31/08	(0%)
Role: Education Co-Director NSF EEC 0540865	Quality of Life Technology Engineering Research Center	6/1/06 – 5/1/15	\$15,000,000 (20%)

Course Development Grants

Role Grant Number	Title of Project	Project Period	Amount & Effort
Current Grants			
Role: Faculty Advisor Pitt SHRS Interprofessional Education Seed Award	Using Mainstream Smart Technology as Assistive Technology: An Interdisciplinary Course	5/1/23 – 6/30/24	\$2,950
Role: PI Pitt Open Online Short Course Development Grant	Harnessing the Potential of Smart Home Technology as Assistive Technology	5/1/23 – 12/30/23	\$10,000

Course Instructor

Fall 2012-present	HRS 3002 Method of Inquiry for Rehabilitation Sciences I 7-15 SHRS doctoral students, 1 credit
Fall 2008-Fall 2019	HRS 2901 Introduction to Research Methodology 20-50 SHRS MS students, 3 credits
Spring 2015	HRS 3709 Introduction to Rehabilitation Robotics 6-8 SHRS graduate students, 3 credits
Spring 2008	HRS 2714 Quality of Life Technology Seminar Series 6-8 SHRS graduate students, 1 credit
Spring 2006	HRS 3709 Mobility and Manipulation 6-8 SHRS graduate students, 3 credits
Spring 2003, 2005	HRS 3708 Integrated Control of Assistive Devices 6-8 SHRS graduate students, 1 credit

Guest Lecturer

Spring 2010, 2011	CDN 1612 Social & Cultural Determinants of Food Behavior “Chinese Food Culture”	3 credits
Spring 2017	HRS 2705 Rehabilitation Engineering and Assistive Technology Practice “Assistive Technology for Cognition”	3 credits

Independent Study

Spring 2020	Jonathan Wicker, “Exercise Videos for Individuals with Spinal Cord Injury”, Exercise Science Undergraduate Program.
Spring 2020	Yousif Schwetar, “Activity intensity classification for wheelchair users using a wearable device”, BioEngineering Undergraduate Program
Spring 2017	RuiMin Chia, “Virtual wheelchair coach Smartphone apps”, MS RT program
Spring 2016	Louis Nikolis, “Mobile app development for new wheelchair users”, Rehabilitation Science Undergraduate Program
Spring 2012	Lindsey Brown, “Accelerometry-Based Measurement Tool for Wheelchair Propulsion Monitoring”, Rehabilitation Science Undergraduate Program
Spring 2008	Ben Salatin, “Assistive Robotic Manipulators”, MS RT program

Young Investigators Mentored (N=9)

2023 June–Present	Breelyn Styler, PhD, Human Engineering Research Laboratories, VAPHS, Serving as the primary mentor for her VA Career Development Award (CDA) I.
2022 Sept–Present	Julie Faieta, PhD, Dept. of Rehabilitation Science and Technology, Serving as one of the mentors in her VAPHS GRECC Pilot project.
2022 Jan–Present	Lindsey Morris, OTD, OTR/L, Research Scientist, Dept. of Rehabilitation Science and Technology
2019 Sept–Present	Lynn Worobey, PhD, Dept. of Physical Medicine and Rehabilitation, Univ. of Pittsburgh, Serving as one of the mentors on her NIH K23 on Characterizing Activity Patterns in Functional Mobility After Spinal Cord Injury
2022 Sept–2023 April	Palma Walko, Occupational Therapy Program, Johnson & Wales University, Serving as a mentor on her advanced doctoral experience towards the post-professional doctor of occupational therapy.
2021 May–August	Gina Navarro, Occupational Therapy Program, Slippery Rock University, Serving as a site mentor on her advanced doctoral experience towards the post-professional doctor of occupational therapy.
2020 May–August	Kristen Messina, Dept. of Occupational Therapy, MGH Institute of Health Professions. Serving as a site mentor on her advanced doctoral experience towards the post-professional doctor of occupational therapy.
2020 Jan–May	Lindsey Morris, Dept. of Occupational Therapy, MGH Institute of Health Professions. Serving as a site mentor on her advanced doctoral experience towards the post-professional doctor of occupational therapy.
2019 Sept–2021 August	Stephanie Rigot, DPT, Dept. of BioEngineering, Univ. of Pittsburgh Serving as one of the mentors on her NIH F30 on Monitoring Lower Limb Movement to Predict Ambulatory Ability after Spinal Cord Injury

Post-Doctoral Fellows Supervised/Co-Supervised (N=8)

12/20–04/23	Breelyn Styler (Primary Supervisor) PhD in Carnegie Mellon University <i>First Position:</i> VA Biomedical Engineer (CDA I awardee) at VAPHS
08/13–07/17	Hyun Ka (Primary Supervisor) PhD in Rehabilitation Science and Technology, University of Pittsburgh <i>First Position:</i> Associate Professor at Korea Advanced Institute of Science and Technology
01/14–04/15	Hsinyi Liu (Primary Supervisor) PhD in Rehabilitation Science and Technology, University of Pittsburgh <i>First Position:</i> Assistant Professor of Physical Therapy at the University of South Dakota
09/12–07/15	Hongwu Wang (Co-Supervisor) PhD in Rehabilitation Science and Technology, University of Pittsburgh <i>First Position:</i> Assistant Professor, Department of Rehabilitation Science and Technology at the University of Pittsburgh
02/12–01/15	Harshal Mahajan (Primary Supervisor) PhD in Rehabilitation Science and Technology, University of Pittsburgh <i>First position:</i> Research Scientist at Georgia Tech University
02/11–11/11	Kunal Mankodiya (Primary Supervisor) PhD in Institute for Signal Processing, University of Luebeck, Germany <i>First position:</i> Research Scientist at Carnegie Mellon University
10/09–02/11	Jijie Xu (Co-Supervisor) PhD in Robotics at the Hong Kong University of Science and Technology

First position: Hardware Development Engineer, Amazon

Graduate Students Supervised (N=20)

01/23 – Present	Tesla Knight, MOT Doctor of Philosophy in Rehabilitation Science
05/23 – Present	Kacey Roehrich Master of Rehabilitation Technology
01/22 – Present	Sukritta Suksawang Master of Science in BioEngineering
09/20 – Present	Michael Huang (passed comprehensive exam in March 2023) Doctor of Philosophy in Rehabilitation Science
08/18 – 04/20	Michael Huang Master of Science in Rehabilitation Science and Technology <i>Scholarly Paper:</i> A Wearable Device-Based Energy Expenditure Prediction Model for Wheelchair Users – Development and Evaluation in Controlled and Free-Living Conditions. <i>First Position:</i> PhD student in Rehabilitation Science, University of Pittsburgh
09/15 – 07/19	Akhila Veerubhotla Doctor of Philosophy in Rehabilitation Science <i>PbD Dissertation:</i> How Well Can Wearable Devices Measure Physical Activity in Manual Wheelchair Users with Spinal Cord Injury? <i>First Position:</i> Postdoctoral Fellow at Kessler Institute of Rehabilitation
09/13 – 07/18	KaLai Tsang Doctor of Philosophy in Rehabilitation Science <i>PbD Dissertation:</i> Using wearable sensors for physical activity measurement and promotion in manual wheelchair users <i>First Position:</i> Product Engineer at Philips
06/17 – 04/18	Noha Halawani Master of Science in Rehabilitation Science and Technology <i>Scholarly Paper:</i> A proposed computer access assessment protocol for future practitioners in Saudi Arabia <i>First Position:</i> Rehabilitation Specialist at Saudi Arabia
09/16 – 07/17	RuiMin Chia Master of Science in Rehabilitation Science and Technology <i>Scholarly Paper:</i> Usability evaluation of “My Wheelchair Guide” app: a qualitative study <i>First Position:</i> Senior Occupational Therapist at Tan Tock Seng Hospital, Singapore
09/11 – 08/15	Jing Wang Doctor of Philosophy in Rehabilitation Science <i>PbD Dissertation:</i> Development and Evaluation of an Assistive Prompting System for People with Traumatic Brain Injury <i>First Position:</i> Visiting Assistant Professor at the Department of Occupational Therapy at Duquesne University, Pittsburgh.
01/12 – 12/14	Joseph Corrigan Masters of Science in Rehabilitation Science and Technology <i>Scholarly Paper:</i> A Literature Review on Haptic Devices for the Blind <i>First Position:</i> Law student at the Law School, University of Pittsburgh.
09/12 – 07/14	Vee Wongskirikul Masters of Science in Rehabilitation Science and Technology <i>Master’s Thesis:</i> Field-based Usability Study of Physical Activity Monitoring

- 09/11 – 07/13 and Sharing System for Manual Wheelchair Users with Spinal Cord Injury.
Joshua Telson
Masters of Science in Rehabilitation Science and Technology
Master's Thesis: Preliminary Design and Evaluation of an Overhead Kitchen Robot Appliance
First Position: Mechanical Engineer at 4MOMS LLC, Pittsburgh
- 01/11 – 04/13 Manoela Ojeda
Masters of Science in Rehabilitation Science and Technology
Master's Thesis: Toward Monitoring Wheelchair Propulsion in Natural Environment using Wearable Sensors
- 09/09 – 07/13 Shivayogi Hiremath
Doctor of Philosophy in Rehabilitation Science
PhD Dissertation: Physical Activity Monitoring System for Manual Wheelchair Users
First Position: Postdoctoral Fellow, Dept. of Physical Medicine and Rehabilitation, University of Pittsburgh
- 09/09 – 08/11 Jui-Te Lin
Masters of Science in Rehabilitation Science and Technology
Master's Thesis: Investigation of Terrain Effects on Wheelchair Propulsion and Validity of a Wheelchair Propulsion Monitor
First Position: PhD student, Dept. of Applied Physiology, Georgia Institute of Technology
- 09/07 – 08/09 Shivayogi Hiremath
Masters of Science in Rehabilitation Science and Technology
Master's Thesis: Evaluation of Accelerometer-Based Activity Monitors to Assess Energy Expenditure of Manual Wheelchair Users with SCI
First Position: PhD student, Dept. of Rehabilitation Science and Technology, University of Pittsburgh
- 09/06 – 08/08 Sara Sibnaller
Masters of Science in Rehabilitation Science and Technology
Master's Thesis: Investigation of Unintentional Movement in People with Cerebral Palsy to Improve Computer Target Acquisition
First Position: Software engineer at Philips Home Healthcare Solutions, Pittsburgh
- 09/05 – 08/07 Ana Souza
Masters of Science in Rehabilitation Science and Technology
Master's Thesis: Impact and Usage of Pushrim Activated Power Assist Wheelchairs among Individuals with Tetraplegia
First Position: PhD student, Dept. of Rehabilitation Science and Technology, University of Pittsburgh
- 09/04 – 08/06 Liz Leister
Masters of Science in Rehabilitation Science and Technology
Master's Thesis: Investigation of Terrain Effects on Wheelchair Propulsion and Validity of a Wheelchair Propulsion Monitor
First Position: Software engineer at Philips Home Healthcare Solutions, Pittsburgh

BPhil Undergraduate Students Supervised (N=3)

- 11/21 – Present Yifan Xiang
Univ. of Pittsburgh Honors College

- 09/18 – 04/20 Yousif Shwetar
BPhil in Bioengineering, Univ. of Pittsburgh Honors College
BPhil Thesis: Using Wearable Devices to Measure Physical Activity in Manual Wheelchair Users with Spinal Cord Injuries
First position: The University of North Carolina at Chapel Hill MD/PhD program. 2021
- 01/12 – 12/12 Lindsey Brown
BPhil in Rehabilitation Science, University of Pittsburgh Honors College
BPhil Thesis: Quantifying Upper Limb Movements among Wheelchair Users Using Wheelchair Propulsion Monitoring Devices
First position: The Ohio State University, Doctor of Physical Therapy and PhD in Rehab Science. 2013

Doctoral Committee (N=15)

- 2022 – Present Michael O’Leary, Rehabilitation Science (Communication Science and Disorder), University of Pittsburgh
- 2020 – 2022 Tom Corfman (Rehab Science), George Mason University.
Dissertation: The Influence of an Over-Ground Locomotor Training Program on Walking Gait Propulsive Force in Ambulatory Patients with Parkinson’s Disease.
- 2018 – 2021 Stephanie Rigot (BioEngineering), University of Pittsburgh.
Dissertation: The Development of Limb Acceleration as a Measure of Neuromuscular Impairment and Predictor of Ambulatory Ability Following Spinal Cord Injury
- 2013 – 2021 Lin Wei, Rehabilitation Science (Rehabilitation Science and Technology), University of Pittsburgh
Dissertation: The Potential for 3D Depth Cameras to Automatically Evaluate Independent Wheelchair Transfer Techniques
- 2007 – 2017 Garrett Grindle, Rehabilitation Science (Rehabilitation Science and Technology), University of Pittsburgh
Dissertation: Design and Development of Assistive Robots for Close Interaction with People with Disabilities
- 2014 – 2016 Ashley McKeon, Rehabilitation Science (Rehabilitation Science and Technology), University of Pittsburgh
Dissertation: Physiological predictors of behavioral deregulation in adults with traumatic brain injury: a novel ecological momentary assessment method
- 2011 – 2015 Cheng-Siu Chung, Rehabilitation Science (Rehabilitation Science and Technology), University of Pittsburgh
Dissertation: An Assistive Interface for Assistive Robotic Manipulators
- 2011 – 2015 YuKuang Wu, Rehabilitation Science (Rehabilitation Science and Technology), University of Pittsburgh
Dissertation: Development of a Smartphone Virtual Seating Coach Application for Improving Powered Seat Functions Usage
- 2008 – 2013 Hsin-yi Liu, Rehabilitation Science (Rehabilitation Science and Technology), University of Pittsburgh
Dissertation: Development of a Customized Electronic Reminder to Facilitate Powered Seating Function Usage and Compliance with Clinical Recommendations: Design Process and Clinical Efficacy
- 2008 – 2012 Ayubi Soleh, Rehabilitation Science (Health Information Management), University of Pittsburgh

- Dissertation:* Model, Framework, and Platform of Health Persuasive Social Network
- 2006 – 2012 Hongwu Wang, Rehabilitation Science (Rehabilitation Science and Technology), University of Pittsburgh
Dissertation: Development and Evaluation of an Advanced Real-Time Electric Powered Wheelchair Controller
- 2005 – 2012 Harshal Mahajan, Rehabilitation Science (Rehabilitation Science and Technology), University of Pittsburgh
Dissertation: Development and Validation of Simulators for Power Wheelchair Driving Evaluations
- 2006 – 2011 Piyawan Kasemsuppakorn, Information Sciences, University of Pittsburgh
Dissertation: Methodology and Algorithms for Pedestrian Network Construction
- 2005 – 2009 Vinod Sharma, Bioengineering, University of Pittsburgh
Dissertation: Design and Evaluation of a Distributed, Shared Control, Navigation Assistance System of Power Wheelchairs
- 2003 – 2007 Jonathan Pearlman, Rehabilitation Science (Rehabilitation Science and Technology), University of Pittsburgh
Dissertation: Research and Development of an Appropriate Electric Powered Wheelchair for India

Master's Thesis or Scholarly Paper Committee (N=8)

- 2015 – 2016 Adam Sherman, Rehabilitation Science and Technology, University of Pittsburgh
Scholarly Paper: Systematic Review of Robotic Devices of Lower Extremities for Individuals with Stroke
- 2013 – 2015 Herbert Hill, Rehabilitation Science and Technology, University of Pittsburgh
Scholarly Paper: The Commercialization of Assistive Technologies: Case Studies of Technology Transfer Taking Projecting from the Lab to the Market
- 2012 – 2014 Yu-Ting Cheng, Rehabilitation Science and Technology, University of Pittsburgh
Master's Thesis: Investigation of Physiological Responses during Pulmonary and Exercise Tests and Validity of the WHEEL Perceived Exertion Scale among Adolescents and Adults with Spina Bifida
- 2007 – 2010 Ben Salatin, Rehabilitation Science and Technology, University of Pittsburgh
Master's Thesis: Electric Powered Wheelchair Driving Outdoors: The Identification of Driving Obstacles and Strategies and the Development of an Advanced Controller
- 2004 – 2006 Karl Brown, Rehabilitation Science and Technology, University of Pittsburgh
Master's Thesis: Electric Powered Wheelchair Control with a Variable Compliance Joystick: Improving Control of Mobility Devices for Individuals with MS
- 2003 – 2005 Michelle Tolerico, Rehabilitation Science and Technology, University of Pittsburgh
Master's Thesis: Investigation of the Mobility Characteristics and Activity Levels of Manual Wheelchair Users in Two Real World Environments
- 2002 – 2004 Beth Ann Kaminski, Rehabilitation Science and Technology, University of Pittsburgh
Master's Thesis: Application of a Commercial Datalogger to Electric Powered

2001 – 2003

and Manual Wheelchairs of Children

Andrew Kwarciak, Bioengineering, University of Pittsburgh

Master's Thesis: Performance Analysis of Suspension Manual Wheelchairs

Graduate Student Interns Supervised (N=33)

07/23 – present Yang Ma, MS student in Information Science, Univ. of Pittsburgh
05/23 – present Rujuta Vaidya, MS student in Telecommunications, Univ. of Pittsburgh
05/23 – present Dhruv Gupta, MS student in Information Science, Univ. of Pittsburgh
09/22 – 04/23 Palma Walko, OTD student, Johnson & Wales University
09/22 – 04/23 Varun Shilesh, MS student in BioEngineering, Univ. of Pittsburgh
05/22 – 08/22 Shiman Zhou, MS student in Information Science, Univ. of Pittsburgh
10/21 – 05/23 Tao Ren, MS student in Information Science, Univ. of Pittsburgh
05/21 – 02/22 Alex Houriet, MS student in BioE, Univ. of Pittsburgh
05/21 – 12/21 Caroline McClain, DPT student, Univ. of Pittsburgh
05/21 – 12/21 Kaitlyn Rayl, DPT student, Univ. of Pittsburgh
02/21 – 07/22 Tianlin Zhao, MS student in Information Science, Univ. of Pittsburgh
10/20 – 02/22 Matthew Boone, OTD student in MGH Institute of Health Professions
07/20 – 04/21 Zhongxuan Song, MS student in Computer Science, Univ. of Pittsburgh
07/20 – 12/20 Yue Wu, MS student in Information Science, Univ. of Pittsburgh
05/20 – 08/20 Fanghui Xiao, PhD student in Information Science, Univ. of Pittsburgh
01/20 – 04/20 Binyu Wang, MS student in Information Science, Univ. of Pittsburgh
05/19 – 04/20 Jiashu Zou, MS student in Information Science, Univ. of Pittsburgh
05/19 – 07/19 Zhehao Lin, MS student in Information Science, Univ. of Pittsburgh
01/19 – 04/19 Hao Zhao, MS student in Information Science, Univ. of Pittsburgh
09/18 – 12/18 Ningjuan Zhu, MS student in Information Science, Univ. of Pittsburgh
09/17 – 12/17 Aswathi Saminathan, MS student in Information Science, Univ. of Pittsburgh
01/16 – 12/16 Haoran Zhao, MS student in Information Science, Univ. of Pittsburgh
01/15 – 05/15 Kayla Geer, MS student in Integrated Innovation in Products and Services, Carnegie Mellon University
09/14 – 05/15 Satish Raishankar, MS student in Robotics Institute, Carnegie Mellon University
08/14 – 05/15 Sanjuan Jin, MS student in Information Sciences, Univ. of Pittsburgh
05/14 – 07/14 Meng Shi, MS student in Tangible Interaction Design, Carnegie Mellon University
09/11 – 07/14 Monsak Socharoentum, PhD student in Information Sciences, Univ. of Pittsburgh
11/11 – 08/12 Vijeta Parvatikar, MS student in Physical Therapy, Univ. of Pittsburgh
05/11 – 11/11 Sasa Tripathy, MS student in Biomedical Engineering, Univ. of Texas Arlington
01/11 – 05/11 Abdul Raqeeb Azeez, MS student in Information Sciences, Univ. of Pittsburgh
01/11 – 05/11 Gabriela Uribe, MS student in Design, Carnegie Mellon University
11/08 – 12/09 Megha Dhawan, MS student in Physical Therapy, Univ. of Pittsburgh
05/06 – 08/06 Stephen Gaukrodger, MS student in Computer Science, Univ. of Canterbury, New Zealand

Undergraduate Student Interns Supervised (N=46)

07/22 – present Katie Bergstrom, Communication Science and Disorder, Univ. of Pittsburgh
07/22 – present Isabell Gessner, Communication Science and Disorder, Univ. of Pittsburgh
05/22 – 04/23 Eileen Wang, Computer Engineering, Univ. of Pittsburgh
05/22 – 04/23 Pragya Malhotra, BioEngineering, Univ. of Pittsburgh
05/22 – 08/22 Wentao Wu, Computer Science, Univ. of Pittsburgh
05/21 – 07/21 Rachel Fuechtman, BioEngineering, Carnegie Mellon University
01/20 – 04/20 Megan Abdul, Electrical and Computer Engineering, Univ. of Pittsburgh
01/20 – 04/20 Jonathan Wicker, Health and Physical Activity Program, Univ. of Pittsburgh
01/19 – 05/19 Daniel Post, Health and Physical Activity Program, Univ. of Pittsburgh

05/18 – 08/18	Jeff Ruffing, Mechanical Engineering, Penn State
05/18 – 08/18	Nicholas DiTommaso, Chemical Engineering, Michigan State University
01/18 – 08/18	Madeline Hain, Health and Physical Activity Program, Univ. of Pittsburgh
01/18 – 08/18	Nanami Mano, Health and Physical Activity Program, Univ. of Pittsburgh
09/17 – 09/18	Jonathan Chung, Health and Rehabilitation Sciences, Univ. of Pittsburgh
01/16 – 04/18	Joseph Lynch, Electrical and Computer Engineering, Univ. of Pittsburgh
05/15 – 07/15	Bethany Langdon, Biomedical Engineering and Mechanical Engineering, Univ. of Arizona
05/15 – 07/15	Tenzin Chhosphel, Computer Science, City University of New York–City College
05/15 – 07/15	Llorr Robinson, Computer Engineering, Savannah State University
05/14 – 07/14	Elizabeth Gauen, Industrial and Enterprise Systems Engineering, Univ. of Illinois at Urbana-Champaign
05/14 – 07/14	Jonathan Velez, Psychology, University of Central Florida
05/14 – 07/14	Erika Mason, Electrical Engineering, University of Rochester
05/14 – 07/14	Lucas Webster, Electrical Engineering, Universidade Federal do Espirito Santo, Brazil
05/13 – 08/13	Alex Santos, Computer Science, University of Puerto Rico, Rio Piedras Campus
05/13 – 08/13	Erik Dornbush, Systems Engineering, University of Virginia
03/12 – 12/12	Josh Cohen, Electrical Engineering, University of Pittsburgh
05/12 – 08/12	Evan Radkoff, Computer Science, The College of Wooster
05/12 – 08/12	Dung Pham, Computer Science, Hanover College
05/12 – 08/12	Shelly Ni, Product Design, Stanford University
05/12 – 08/12	Matthew Hannan, Univ. of Pittsburgh
05/12 – 08/12	Chris Okonkwo, Computer Science, Norfolk State University
09/11 – 12/11	Greg Hill, Computer Engineering, University of Pittsburgh
01/11 – 08/11	Sossena Wood, Electrical Engineering, University of Pittsburgh
01/11 – 05/11	Shawn Hanna, Computer Engineering, University of Pittsburgh
05/11 – 08/11	Josh Davis, Electrical Engineering Technology, California Univ. of Pennsylvania
01/10 – 05/10	David Berlin, Electrical Engineering, University of Pittsburgh
05/10 – 08/10	David Carter, Mechanical Engineering, Carnegie Mellon University
05/10 – 08/10	Faiz Hasanuzzaman, Electrical Engineering, City College of NY
05/10 – 08/10	Alix Cave, Electrical Engineering, St. Mary's University
05/09 – 08/09	Adriana Chacon, Mechanical Engineering, South Florida University
05/07 – 08/07	Ruhani Sandhu, Electrical Engineering, University of Buffalo
05/06 – 08/06	Nick Marchuk, Mechanical Engineering, Johns Hopkins University
01/05 – 05/05	Sulaiman Harris, Electrical Engineering, University of Pittsburgh
05/05 – 08/05	Mpitulo Kala-Lufulwabo, Electrical Engineering, University of Pittsburgh
05/04 – 08/04	Scott Novich, Electrical Engineering, Rice University
05/03 – 08/03	Erika Fanzen, Bioengineering, University of Pittsburgh
05/02 – 08/02	Alex Cheung, Biomedical Engineering, Carnegie Mellon University

Other Teaching Activities

Seminar Coordination

Fall 2006, 2007 Quality of Life Technology Seminar Series

Instructional Courses, Workshops, Seminars, Short Courses

- 05/23 Ding D, Morris L, Fried J. Smart home technology for people with disabilities, *System Redesign for the Prescription of Assistive Technology Conference*, Singapore.
- 04/23 Chung JS, **Ding D**, and Styler B. Improving the control interface for assistive robotic manipulations: manual to autonomous. *International Seating Symposium*.

- 02/23 Vasquez S, Hill Kayta, and **Ding D**. Unlocking my AAC to control my home. *Assistive Technology Industry Association Annual Conference*.
- 02/23 Fairman A, Morris L, and **Ding D**. Demonstration of a service delivery model for mainstream smart home technology. *Assistive Technology Industry Association Annual Conference*.
- 07/22 **Ding D**, Tachau S, Hernandez R, and Morris L, Strategies and tools for promoting smart home technology in people with disabilities. *Rehabilitation Engineering and Assistive Technology Society of North America (RESNA) Annual Conference*.
- 02/22 **Ding D**, Morris L, Houriet A, and Chung J. Mainstream smart home technologies for people with physical disabilities. *International Seating Symposium*.
- 01/22 **Ding D**, Morris L, Houriet A, and Chung J. Development of a multi-modal smart home technology demonstration station. *Assistive Technology Industry Association Annual Conference*.
- 07/21 Morris L and **Ding D**. Development of ASSIST service delivery model for use of smart home technology as assistive technology, *Rehabilitation Engineering and Assistive Technology Society of North America (RESNA) Annual Conference*.
- 02/21 **Ding D**, Morris L, and Fairman A. Development of ASSIST checklist for use of smart home technology as assistive technology. *Assistive Technology Industry Association Annual Conference*.
- 08/19 Veerubhotla A, and **Ding D**. How well can wearable devices track physical activity intensities in people with SCI, *2019 Paralyzed Veterans of America Healthcare Summit + Expo*.
- 10/18 **Ding D** and Chung J, Technology based measurement – quantifying activity of wheelchair users using Sensors & Machine Learning, *ACRM*.
- 03/17 **Ding D**, Wang HW, Clark A, Cooper RA. Workshop on Assistive Robotics for Manipulation, *The 33rd International Seating Symposium*.
- 07/16 **Ding D** and Tsang K, Workshop on understanding wearable activity trackers for wheelchair users, *the Annual RESNA Conference*, Washington DC.
- 07/16 Parmanto B, Andi Saptono, and **Ding D**, Workshop on improving quality of life for individuals with disability through mobile health, *the Annual RESNA Conference*, Washington DC.
- 07/10 Fundamentals of Assistive Technology, *the 4th International Convention for Rehabilitation Engineering & Technology*, Shanghai, China.
- 03/09 Activity Telemonitor for Wheelchair Users: Changing Behaviors, *International Seating Symposium Instructional Course Session on TeleRehabilitation: a Viable Method for Wheelchair Prescription*, Orlando, FL.
- 01/09 Overview of Rehabilitation Engineering, *the Dept. of Bioengineering's Undergraduate Seminar Series*, University of Pittsburgh.
- 03/09 Overview of Rehabilitation Engineering, *the Dept of Electrical Engineering's Undergraduate Seminar Series*, University of Pittsburgh.

RESEARCH

Research Grants

*I have a joint appointment with the University of Pittsburgh (Pitt) and VA Pittsburgh Healthcare System. Per my MOU effective on Feb 2016, 28 hours of my week are devoted to Pitt and 25 hours per week are devoted to the VA.

Role Grant Number	Title of Project	Project Period	Amount & Effort
Pending Grants			

Role: Co-PI NIST	Teaching Robots to Assist Through Imitation Learning	9/1/23 – 8/31/24	(10% Pitt)
Role: Co-I NIH R01	Advancing Mobility Prognosis after Spinal Cord Injury	10/1/23 – 9/30/28	(15% Pitt)
Current Grants			
Role: Co-PI HUD PAHHU0071-22	Incorporating Home Environment Exposures into Assessment Tools for People Receiving Home and Community-Base Services	1/1/23 – 12/31/24	\$918,709 (20% Pitt)
Role: PI 90REGE0016 ACL/NIDILRR	Rehabilitation Engineering Research Center (RERC) on Wireless Technologies for People with Disabilities	9/22/21 – 8/31/26	\$4,624,249 (40% Pitt)
Role: Co-I & Site PI NIH R01HD096085	Energy Expenditure and Weight-Related Behaviors in Youth with Down Syndrome	9/22/21 – 11/30/24	\$345,886(site) (20% Pitt)
Role: PI 90DPGE0010-01-00 ACL/NIDILRR	Autonomy, Safety, and Social Integration via Smart Technologies (ASSIST)	9/30/19- 9/29/23	\$1,333,027 (10% Pitt)
Role: Co-I & Site PI NIH R01HD096085	Body Composition and Energy Expenditure in Youth with Spina Bifida	7/1/19- 10/31/24	\$553,334(site) (10% Pitt)
Role: PI 2 I01 RX003242-01A1 VA RR&D	Development of Vision-Guided Shared Control for Assistive Robotic Manipulators	7/1/20 – 6/30/24	\$899,945 (60% VA)
Role: Co-PI & Site PI 5 I01 RX003228-02 VA RR&D	Design Improvements and Evaluation of a Knee Stress-Relief Powered Exoskeleton for Veterans with Knee Osteoarthritis	4/1/21 – 3/31/25	\$582,840(site) (40% VA)
Role: Primary Mentor 1K1RX004259-10A1 VA RR&D	Flexible Control Authority with a Robotic Arm: Facilitating Seamless Transitions between User and Robot Control in Multi-Action Manipulation Tasks	6/1/23 – 5/31/25	\$260,000 (0% VA)
Role: Mentor VAPHS GRECC Pilot	VVC Match: Enhancing Health Technology Resources Utilization Through Informed Evaluations	10/1/22- 9/30/23	\$25,000 (0% VA)
Role: Technical Mentor NIH 1K23 HD096134	Characterizing Activity Patterns in Functional Mobility After SCI	7/1/19 – 6/30/24	\$715,894 (0% Pitt)
Prior Grants			
Role: Co-I DOD SCI190186	Relationship between Lower Limb Movement Detected by Activity Monitors and Functional Mobility after SCI	6/1/20 – 5/31/23	\$782,500 (20% Pitt)
Role: PI HERL CPPF	Usability and Accessibility of Technology Platforms for Smart Home Devices for People with Severe Disabilities	7/1/20 – 6/31/21	\$24,235 (20% VA)
Role: PI HERL CPPF	Development of Vision-Guided Shared Control for Assistive Robotic Manipulators	1/1/19 – 12/31/19	\$25,000 (5% VA)
Role: PI Craig Neilsen Foundation	WheelFit: A Novel mHealth Intervention to Reduce Sedentary Behaviors in SCI	9/30/18 – 9/29/22	\$334,495 (20% Pitt)
Role: PI Veterans Benefits Administration SAHAT	IoT-Enabled Home Safety Assistance for People with Cognitive Impairments	4/15/17 – 3/31/19	\$200,000 (10% Pitt)
Role: PI 1I01RX000971-01A2	Field-Based Assessment of Energy Expenditure in Spinal Cord Injury	4/1/15 – 3/31/19	\$825,000 (70% VA)

VA RR&D			
Role: Project PI VA RR&D B9250C	Center of Excellence on Wheelchairs and Associated Rehabilitation Engineering	7/1/14 – 6/30/19	\$4,750,000 (30% VA)
Role: PI HERL CPPF	Development of an Assistive Robotic Kitchen Appliance	9/1/14- 8/31/15	\$25,000 (0%)
Role: PI H133A130025 NIDRR	Self-Management Assistance Through Technology – Virtual Coaches for Wheelchair Users	10/1/13 – 9/30/19	\$2,372,506 (30% Pitt)
Role: Site PI H133E120005 NIDRR	Rehabilitation Engineering Research Center on Recreational Technologies Benefiting Individuals with Disabilities	10/1/12 – 9/30/18	\$454,870(site) (20% Pitt)
Role: Testbed Lead NSF EEC 0540865	Quality of Life Technology Engineering Research Center - Home and Community Health and Wellness Testbed	6/1/10 – 5/31/15	\$265,549 (Project only, 15%)
Role: PI DOD CDMRP SC090323	Physical Activity Measurement in Manual Wheelchair Users with SCI	10/1/10 – 9/30/14	\$736,852 (20%)
Role: Co-PI & Site PI DoD TATRC 09008002	Terrain-Dependent Driver Assistance for Electric Powered Wheelchairs	4/15/10 – 9/15/12	\$250,000 (20%)
Role: Project PI H133E070024 NIDRR	Rehabilitation Engineering Research Center on SCI - Development of Measurement Tools for Propulsion Training in the Natural Environment	4/1/10 – 9/30/12	\$248,740(project) (15%)
Role: Project PI VA RR&D B6789C	Center of Excellence on Wheelchairs and Associated Rehabilitation Engineering	7/1/09 – 6/30/14	\$4,750,000 (WOC)
Role: Co-I VA RR&D A6035R	Computer-Based and Virtual Assessments of Power Wheelchair Mobility	7/1/09 – 6/30/12	\$446,500 (WOC)
Role: Co-I VA RR&D B6591R	Powered Seating Function Usage among Veterans – Compliance and Coaching	5/1/09 – 4/30/13	\$1,052,500 (WOC)
Role: Site PI PA NanoMaterials Commercialization Center	Flexible Sensing Films for Healthcare Using Carbon Nanotubes and Nanometallic Inks	2/1/09 – 1/31/10	\$62,439 (10%)
Role: PI Pitt CRDF	Personalized Wheelchair Navigation	6/1/08 – 6/30/10	\$16,000 (0%)
Role: Project PI H133E070029 NIDRR	RERC on Recreational Technologies Benefiting Individuals with Disabilities - Utility of Common Activity Monitors in Measuring Energy Expenditure in Manual Wheelchair Users with SCI	10/1/07 – 9/30/12	\$287,273 (Sub only, 15%)
Role: PI PVA 2486	Development of a Wheelchair Propulsion Monitoring Device	2/1/07 – 12/31/09	\$150,000 (20%)
Role: Co-I H133E070024 NIDRR	RERC on SCI - Effects of Handrim Technology on Upper Extremity Musculoskeletal Injury	10/1/07 – 3/31/10	\$248,740
Role: Site PI NIH 1R21HD050717	Nonlinear Filtering of Athetoid Movement	9/20/06 – 8/31/09	\$325,474
Role: Co-I Pittsburgh Life Science Green House	Quality of Life Technology Project	5/10/06 – 8/31/08	\$150,000
Role: Co-I NIH 1R03 HD048465	Advanced 3D Control Techniques for Powered Wheelchairs	9/1/05 – 8/30/08	\$222,364
Role: PI	Datalogger Development for Wheelchair	6/1/05 –	\$100,000

1R41HD049922-01 NIH STTR Phase I	Mobility Outcomes	5/31/06	(10%)
Role: PI Pitt Medical Research Fund	An Experimental Testbed for Optimized Wheelchair Control	9/1/05 – 8/31/06	\$25,000 (0%)
Role: PI PVA Fellowship 2264-01	Enhanced Remote Data Logging for Electric Powered Wheelchairs (Phase II)	7/1/05 – 6/30/06	\$49,915 (100%)
Role: PI H133F040006 NIDRR Switzer Fellowship	Enhanced Remote Data Logging for Electric Powered Wheelchairs (Phase I)	9/1/04 – 8/30/05	\$45,000 (100%)
Role: Project PI VA RR&D B3142C	Center of Excellence on Wheelchairs and Associated Rehabilitation Engineering	7/1/04-6/30/09	\$4,750,000 (WOC)
Role: Co-I VA RR&D B3096R	Isometric Controls with Personalized Algorithms for Driving Electric Powered Wheelchairs	4/1/04 – 3/31/07	\$323,100 (WOC)
Role: Co-I H133A020502 NIDRR	TBI Model Systems - Personalized Personal Mobility for Persons with Traumatic Brain Injury	12/1/02 – 11/30/07	\$356,000
Role: Co-I 1R43 EY14490-01 NIH SBIR Phase II	Smart Power Assistance Module for Manual Wheelchairs	9/30/02 – 8/31/05	\$450,000

Invited Talks and Lectures

- 02/23 ASSIST – A Mainstream Smart Home Tech-Based Intervention to Improve Independence and Participation of People with Disabilities, The Smart Home Research Initiative (SHRI) Webinar, Penn State Harrisburg
- 10/22 Development of ASSIST Checklist for Use of Smart Home Technology as Assistive Technology, University of Wyoming Project ECHO
- 05/22 Consumer Technologies as Assistive Technologies for People with Disabilities, SHRS InSpIRe Monthly Seminar
- 03/22 Making Fitness More Accessible. 2022 South by Southwest (SXSW)
- 03/21 Objective Measurement of Physical Activities in Wheelchair Users at the School of Global Public Health at the University of North Carolina at Chapel Hill.
- 12/20 Objective Measurement of Physical Activities in Wheelchair Users: Current Issues and Future Directions. NIH Pathways to Prevention Workshop “Can Physical Activity Improve the Health of Wheelchair Users?”
- 10/17 Assistive Robotic Manipulators for Activities of Daily Living, Dept. of Bioengineering, Beijing University of Aeronautics and Astronautics.
- 10/17 Innovation Panel in the State of Science Conference Organized by the NIDILRR’s Rehabilitation Engineering Research Center on Technology Increasing Knowledge: Technology Optimizing Choice, University of Michigan.
- 10/16 Assistive Robotics for Manipulation, presented at the One Belt One Road Symposium on Rehabilitation Engineering, Xi’an Jiaotong University, Xi’an, China.
- 10/16 Assistive Robotic Manipulators for Activities of Daily Living, presented at the State of Science Symposium on Advanced Rehabilitation Technologies, the US Army Garrison Bavaria, Germany.
- 09/16 Assistive Technology for Cognition for Traumatic Brain Injury, State of Science Symposium on Traumatic Brain Injury, National Intrepid Center for Excellence, Bethesda, MD.
- 04/16 Making Off-the-Shelf Fitness Wearables Accessible to Wheelchair Users, Bending the Arc of Exercise Technology Toward People with Disabilities: RERC RecTech Third State of

- the Science Conference, Washington DC
- 07/14 ARRT on Career Advancement for Engineers in the Science of Rehabilitation, Advanced Rehabilitation Research Training and Switzer Fellowship Summit, National Institute on Disability and Rehabilitation Research.
- 03/13 Smart Home Technology and Brain Injury, presented at the CoBI Brain Injury Conference, Sheraton Station Square, Pittsburgh, PA.
- 02/13 Cueing Kitchen – Assistive Technology for Cognition, Spring Seminar Series at the Alzheimer Disease Research Center, University of Pittsburgh.
- 05/11 Home and Community Health and Wellness, State of Science Symposium on Universal Design, National Intrepid Center for Excellence, Bethesda, MD.
- 10/10 Utility of Common Activity Monitoring Devices in Measuring Energy Expenditure in Manual Wheelchair Users with SCI, presented at the State of the Science Conference on Interactive Exercise Technologies and Exercise Physiology for People with Disabilities, Chicago, IL.
- 04/08 Wearable Sensors/Systems and Their Applications in Wheeled Mobility, presented at the McGowan Institute of Regenerative Medicine Retreat, University of Pittsburgh.
- 08/07 Monitoring Seat Feature Usage among Wheelchair Users, presented at the Special Session on Advanced Assistive Technology, IEEE EMBS conference, Lyon, France.
- 02/07 Quality of Life Technology, presented at the Florida-Georgia Louise Stokes Alliance for Minority Participation (FGLSAMP) Expo, Tampa, FL.
- 04/06 Rehabilitation Robotics, presented at the State of the Science Workshop on Advanced Assistive Technology, Walter Reed Army Medical Center, Washington DC.
- 08/05 Wheeled Mobility and Seating, presented at the International Rehabilitation Forum, Xi'an, China
- 04/05 Enhanced Wheelchair Monitoring System, presented at the Switzer Research Fellowship Seminar, National Institute of Disability and Rehabilitation Research, Washington DC.
- 03/05 Wheeled Mobility and Seating, presented at the VA Research Week (along with Dr. Alicia Koontz), Department of Veterans Affairs, Washington DC.

Innovation-Related Activities

- 2023 Invention disclosure on ASSIST Functional Performance Index
- 2022 Invention disclosure on a multi-modal smart home technology demonstration station
- 2021 WheelFit app was licensed to Lemon Life LLC
- 2019 University of Pittsburgh Innovator Award
- 2019 United Spinal Association licensed *My Wheelchair Guide App*
- 2018 Faculty advisor to the student team KaLai Tsang and Deepan Kamaraj who won the 2nd place (out of 103 teams) for Project *WheelFit* in the Randall Big Idea Competition, Univ. of Pittsburgh
- 2018 Faculty advisor to the student team KaLai Tsang and Deepan Kamaraj who were one of the 7 finalists in an international business case competition for graduate students for project WheelFit (out of 134 teams from 25 countries).
- 2017 Faculty advisor to the postdoc fellow Hyun Ka who won the 3rd Place for Project *Slideshow Presentation Access with Real-Time Communication* at the Kuzneski Cup Competition, Univ. of Pittsburgh.
- 2016 Chancellor's Early-Stage Commercialization Fund for Project *VIP Wheelchair*, Univ. of Pittsburgh

Current Research Interests

- Leveraging mainstream Internet-of-things (IoT) Technology (e.g., smart home technologies, smart wearables, and smartphones) as assistive technology (AT) for people with disabilities and older adults by

- designing and evaluating technology-based interventions and service delivery models to enhance independence, well-being, and quality of life.
- developing and assessing technology training programs to promote digital literacy and empower individuals in utilizing IoT-based AT.
- examining policy implications and considerations in the adoption and implementation of mainstream IoT technology as AT to ensure accessibility, inclusivity, and equitable access to technological advancements.
- Activity monitoring using wearable devices for individuals with mobility impairments
- Advancing assistive robotics and systems for individuals with disabilities and older adults

SERVICE

Departmental Administration and Committees or Activities

2023	Manager of the Technology and Disability Research Registry
2022	Chair of a Tenure Promotion Review Committee
2022 – Present	Co-Lead of the Healthy Home Laboratory’s Smart Home Tech Division
2021 – Present	Vice Chair for Research
2021 – Present	Direct supervisor of Jessica Boateng (Research Specialist, RST)
2021 – Present	Direct supervisor of Alexandra Kemmerer (Communication Specialist, RST)
2020 – Present	Direct supervisor of Lindsey Morris (Research Scientist, RST)
2020 – 2021	HERL liaison for the SHRS faculty mentoring program
2018	Chair of a Faculty Promotion Review Committee
2014 – 2018	Program Director of the MS in Rehabilitation Science and Technology Program
2016	Chair of a Tenure Promotion Review Committee
2005 – Present	Member of RST PhD Application Review Committee
2010 – 2018	Coordinator of the Assistive Technology Certificate Program
2009 – 2018	Coordinator of the RST International Exchange Program
2005 – 2018	Chair of the RST Graduate Program Admission Committee
2007 – 2010	Direct supervisor of Juan Jose Vazquez Lopez, Research Engineer, RST
2006 – 2015	Education Co-Director of the Quality of Life Technology Engineering Research Center
2007 – 2014	Direct supervisor of Mary Goldberg, Education and Outreach Coordinator, RST
2009 – 2014	Next-level supervisor of Shelly Brown, Education and Outreach Coordinator, RST
2010 – 2014	Next-level supervisor of Maria Milleville, Education and Outreach Coordinator, RST

School Administration and Committees or Activities

2022	Chair of one 2 nd -level promotion review committee
2022	Member of one 2 nd -level promotion review committee
2022	Member of a faculty promotion mentorship team
2021	Chair of one 2 nd -level promotion review committee
2021	Member of two 2 nd -level promotion review committees
2020	SHRS Training Awards and Funding Committee
2020	Member of a faculty promotion mentorship team
2019	SHRS Promotion and Tenure Task Force
2019	SHRS Junior Faculty Orientation Committee
2019	Chair in one 2 nd -level promotion review committee
2019	Served as the external examiner a PhD Comprehensive Examination.
2018	Chair of one 2 nd -level tenure promotion review committee
2017	Member of one 2 nd -level promotion review committee
2017 – present	SHRS APT Promotion Review Committee
2016	Member of a 2 nd -level promotion review committee

2016 Chair of a 2nd-level promotion review committee
 2016 SHRS Doctoral Award Committee
 2016 Chair of one 2nd-level promotion review committee
 2013 – present Member, SHRS Methods of Inquiry Preliminary Examination Committee
 2012 – 2015 Member, SHRS Assistive Technology Preliminary Exam Committee
 2010 Member, SHRS Academic Policies Committee
 2009 – 2011 Co-investigator of the Commonwealth funding for minority retention and recruitment

University

03/23 Career Guide for the 2023 Women in Medicine & Science Forum
 10/20 Poster judge of the 16th Annual RI Research Day
 2018 – Present The University of Pittsburgh Postdoctoral Association (UPPDA) Faculty Advisory Board

External

04/23 Disability Advisory Committee (DAC), Federal Communications Commission
 03/23 External proposal reviewer, Univ. of Florida
 02/23 Faculty promotion review, Univ. of Alabama at Birmingham
 10/22 Technology Task Force of the Office of Development Programs, the PA Department of Human Services
 10/22 – Present Advisory Board member, The Smart Home Research Initiative (SHRI) of Penn State Harrisburg
 07/22 Consultation with the Google/Fitbit Human Factors Group on Fitbit accessibility for wheelchair users.
 09/21 – Present Executive Committee of the NIDILRR’s SCI Model System at the Univ. of Pittsburgh
 08/21 Faculty promotion review, Univ. of Alabama at Birmingham
 05/19 External examiner for the doctoral dissertation of Emma Maria Smith, The University of British Columbia
 05/19 Invited attendee of the Future of Aging, Health and Technology Workshop at the University of Illinois Urbana-Champaign
 07/18 Faculty promotion review, Univ. of Minnesota
 05/18 – Present Member of the IEEE P1752 Physical Activity and Mobility Schema Subgroup

Training

3/21 Mentor training program through the Institute for Clinical Research and Education and SHRS, University of Pittsburgh
 1/17-12/17 Advanced Faculty Leadership Academy, University of Pittsburgh
 10/2015 NIH mHealth Training Institute, University of California Los Angeles, Los Angeles,

Media

05/23 [Five faculty awarded grants to develop open online short courses](#), University Times
 04/23 [Congratulations to the winners of the inaugural SHRS Interprofessional Education Seed Awards!](#) SHRS
 11/22 [Pitt’s Healthy Home Lab Receives Funding to Make Homes Safer for Older Adults](#), UPMC Inside
 03/22 Recognized as one of the “[Pitt Women You Should Know](#)” for Women’s History Month
 03/22 [Check out the Pittsburgh tech and education leaders at this year’s SXSW](#). Technical.ly – News for Technologists and Entrepreneurs

- 03/22 [Pitt's Dan Ding, Lori Delale-O'Connor and Medina Jackson present at SXSW 2022](#), PittWire
- 11/21 [Pitt Researchers Receive Grant to Explore Wireless Technology for Those with Disabilities](#), UPMC Inside
- 10/21 [A PROMISE Made](#), SHRS
- 10/21 [How to Track Your Daily Activities if You Use a Wheelchair](#). *LIVESTRONG.com* (interviewed by Allison Wallis)
- 04/20 [Hello, Tomorrow! Imagining How Robotics & Complex Wheelchairs Will Interact in the Future](#). *Mobility Management Magazine* (Interviewed by Kyle Walker)
- 03/16 [These Scientists are Building Fitness Trackers That Work For People with Disabilities](#). FastCompany CoExist (Interviewed by Christina Couch)

Academic Committees or Activities

Editorial Boards

- 04/23 – present Editorial Board, Assistive Technology Benefits and Outcomes
- 05/10 – present Associate Editor of Research, Assistive Technology Journal
- 02/14 – 08/14 Guest Editor for Special Issue on Wheeled Mobility, Biomed Research International

Ad-Hoc Grant Review

- 10/21 CDMRP SCIRP, DoD (ad-hoc reviewer)
- 10/20 CDMRP SCIRP, DoD
- 07/20 SBIR Phase II, NIDILRR
- 04/19 SPiRE program, VA RR&D
- 10/18 SPiRE program, VA RR&D
- 04/18 New Jersey Commission on Spinal Cord Research
- 04/18 SPiRE program, VA RR&D
- 08/16 The Disability and Rehabilitation Research Projects (DRRP) program, the National Institute of Disability, Independent Living, and Rehabilitation Research
- 06/15 Small Business Innovation Research (SBIR) Program, the National Institute of Disability, Independent Living, and Rehabilitation Research
- 05/15 Rehabilitation Engineering Research Center Program, the National Institute of Disability, Independent Living, and Rehabilitation Research
- 04/13 SPiRE program, VA RR&D
- 08/12 Small Business Innovation Research Program, the National Institute of Disability Research and Rehabilitation
- 06/12 Field Initiated Program, the National Institute of Disability Research and Rehabilitation
- 05/12 AXA Research Fund
- 03/12 Merit Review Program, VA Rehabilitation R&D Service
- 01/12 Bioengineering Panel, Graduate Research Fellowship Program (GRFP), the National Science Foundation,
- 11/11 Clinical and Biomedical Research Unit, Health Research Board, Ireland
- 04/11 Field Initiated Program, National Institute of Disability Research and Rehabilitation
- 04/10 Field Initiated Program, National Institute of Disability Research and Rehabilitation
- 06/07 Research to Aid Individuals with Disabilities, National Science Foundation
- 04/06 Field Initiated Program, National Institute of Disability Research and Rehabilitation
- 04/05 Field Initiated Program, National Institute of Disability Research and Rehabilitation
- 10/05 Central Research Development Fund, University of Pittsburgh
- 04/04 Field Initiated Program, National Institute of Disability Research and Rehabilitation

Conference Committees

- 08/23 Special Session Organizer, Human-Agent/Robot Interaction in Healthcare and Medicine, 32nd IEEE International Conference on Robot and Human Interactive Communication (RO-MAN)
- 04/23 Moderator, The Smart Home Research Initiative (SHRI) Symposium, Penn State Harrisburg
- 10/12 Program Co-Chair of the One Belt One Road Symposium on Rehabilitation Engineering, Xi'an Jiaotong University, Xi'an, China.
- 05/12 Technical program committee of the International Conference on Rehabilitation Medical Engineering, Shanghai, China
- 07/10 Program Co-Chair of the 4th International Convention for Rehabilitation Engineering & Technology, Shanghai, China
- 09/08 Program committee of the International Conference on Intelligent Robots and Systems, Nice, France
- 09/06 Session Chair, Advanced Assistive Technology Session, International Conference of the IEEE Engineering in Medicine and Biology Society, Shanghai, China

Journal Peer Review

- 2023 Assistive Technology
Disability and Rehabilitation: Assistive Technology
JMIR
International Journal of Human-Computer Interaction.
- 2022 Disability and Rehabilitation: Assistive Technology
Assistive Technology
Journal of Medical Internet Research
Sensors
- 2021 Disability and Rehabilitation: Assistive Technology
Assistive Technology
Archives Physical Medicine and Rehabilitation
- 2020 Disability and Rehabilitation: Assistive Technology
Assistive Technology
PLOS ONE
Journal of Biomechanics
- 2019 Assistive Technology
Sensors
Technology in Society
Journal of Biomechanics
International Journal of Prosthetics and Orthotics
- 2018 Assistive Technology
Disability and Rehabilitation: Assistive Technology
Journal of Spinal Cord Medicine
Sensors
- 2017 Assistive Technology
Medical Engineering and Physics
Disability and Rehabilitation: Assistive Technology
- 2016 Medical Engineering and Physics
Disability and Rehabilitation
Journal of Rehabilitation Research and Development
Assistive Technology
JMIR Mhealth Uhealth
- 2015 Archives of Physical Medicine and Rehabilitation
IEEE Transactions on Human Machine Systems

Assistive Technology
 IEEE Journal of Biomedical and Health Informatics
 2014 Sensors
 Disability and Rehabilitation: Assistive Technology
 Journal of Rehabilitation Research and Development (JRRD)
 Assistive Technology
 Journal of Neuro Engineering and Rehabilitation
 IEEE EMBC Conference
 2013 Disability and Rehabilitation: Assistive Technology
 Assistive Technology
 Journal of Rehabilitation Research and Development (JRRD)
 2012 Archives of Physical Medicine and Rehabilitation
 Medical Engineering and Physics
 Disability and Rehabilitation
 Assistive Technology
 Control Engineering Practice
 2011 Archives of Physical Medicine and Rehabilitation
 Medical Engineering and Physics
 Disability and Rehabilitation
 Assistive Technology
 Control Engineering Practice
 IEEE EMBS Conference
 2010 Medicine & Science in Sports & Exercise
 Archives of Physical Medicine and Rehabilitation
 Journal of Rehabilitation Research and Development (JRRD)
 Assistive Technology
 IEEE EMBS Conference
 2009 Journal of Rehabilitation Research and Development (JRRD)
 American Journal of Physical Medicine and Rehabilitation
 Assistive Technology
 Archives of Physical Medicine and Rehabilitation
 IEEE EMBS Conference
 2008 Journal of Rehabilitation Research and Development (JRRD)
 Assistive Technology
 2007 Journal of Rehabilitation Research and Development (JRRD)
 Assistive Technology
 2006 Journal of Rehabilitation Research and Development (JRRD)
 IEEE Transactions on Neural Systems and Rehabilitation Engineering
 Assistive Technology
 2005 Journal of Rehabilitation Research and Development (JRRD)
 Assistive Technology
 2004 The Encyclopedia of Biomedical Engineering
 Assistive Technology
 2003 Assistive Technology
 Iranian Journal of Electrical and Computer Engineering
 2002 IEEE Transactions on Robotics and Automation
 2001 IEEE Transactions on Robotics and Automation

Community Service Grants

Role	Title of Project	Project	Amount &
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Grant Number		Period	Effort
Role: Co-PI NSF DRL1010507 Informal Science Education Program	Human + (Worked with New York Hall of Science to develop a travel exhibit focusing on AT)	10/1/10 – 2/28/13	\$143,186 (10%)

Community Service Activities

08/21 – present	Providing technical support to the Pennsylvania Assistive Technology Foundation (PATF) including (1) technical reviews of the smart home terminology project and (2) technical feedback on their pilot project with a managed care organization, aimed at improving AT services for individuals with disabilities receiving HCBS.
03/22 – present	Providing technical support to the 3i Housing of Maine including technical feedback to help the organization (1) secure congressional funds for their supportive housing project for individuals with physical disabilities, which involves the construction of an apartment building equipped with smart home technology in each unit; (2) select and implement an effective technology plan for the building; (3) implement their new state grant aimed at improving AT services for individuals with disabilities receiving HCBS.
08/20 – 08/21	Assisting IT staff at the United Spinal Association to update content and maintain <i>My Wheelchair Guide</i> app.
11/18	Assistive Technology Research at HERL ReMED of Pittsburgh
04/17	Intelligent Assistive Technology Wyland Elementary School (~80 3 rd graders)
02 – 06, 09, 11	National Veterans Wheelchair Games
11/11 – 03/12	Mentor of the Adventures in Technology Project, Catalyst Connection – serving as a mentor for two teams of high school students (16 students) from Propel Schools on their research projects
11/11	Keynote talk on Rehabilitation Engineering at the SciTech Festival, Carnegie Science Museum (~200 high school students)
03/10	Judge of the 5 th Annual High School Innovative Design Competition, School of Engineering, University of Pittsburgh
11/06	Keynote talk on Quality of Life Technology at the SciTech Festival, Carnegie Science Museum (~200 high school students)