

Ian M. Rice

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Bio

Ian M. Rice earned his PhD from the University of Pittsburgh in 2010 in rehabilitation science and technology with a focus on biomechanics. His research interests include the investigation of interventional strategies to mitigate and prevent the development of secondary health complications in wheelchair users to maximize participation and QOL. Dr. Rice has a particular interest in combining motor learning theory, motor control, and ergonomic principles to optimize the match between person and mobility device. A majority of his work examines the influence of wheelchair configuration and technique training on propulsion biomechanics to minimize the development of upper limb pain and injury across a life span. Additionally, Dr. Rice is a two time Paralympian in the sport of wheelchair racing (2000 Sydney, 2004 Athens). In 15 years of competition he has competed in over 60 marathons and won numerous international track & road racing events.

EDUCATION

PhD. Rehabilitation Science and Technology University of Pittsburgh	<i>2010</i>
M.S. Occupational Therapy Washington University School of Medicine	<i>2002</i>
B.S. Psychology University of Illinois, Champaign Urbana, IL	<i>1999</i>

PROFESSIONAL EXPERIENCE

Work:

Assistant Professor: Department of Kinesiology and Community Health; University of Illinois at Urbana Champaign; 2010-present.

Occupational Therapist: The Center for Assistive Technology; UPMC Health System, Pittsburgh, PA, 2007

Graduate:

VA Pre-Doctoral Fellow: Associated Health Rehabilitation Research Fellowship Veterans Administration Human Engineering Research Laboratories, University of Pittsburgh, October, 2007- 2009. (Research mentor: Dr. Michael Boninger & Dr. Rory Cooper,)

NSF, IGERT Pre-Doctoral Fellow: National Science Foundation Integrative Graduate Education and Research Training (IGERT) Fellowship at Human Engineering Research Laboratories, Pittsburgh, PA, Clinical research on manual wheelchair propulsion training using real time feedback software , 2006-2007. (Research mentor: Dr. Michael Boninger)

Research Associate/Doctoral Candidate: University of Pittsburgh, Human Engineering Research Laboratories, 2002- 2009. (Research mentor: Dr. Michael Boninger)

Research Assistant: Collaboration of Upper Limb Pain in Spinal Cord Injury (CULPSCI) University of Pittsburgh, 2002-2006 (Research mentor: Dr. Michael Boninger)

Research assistant: Assistive Technology Laboratory, Washington University School of Medicine - Program in Occupational Therapy, 2001-2002. (Research mentor: Dr. David Gray)

ACADEMIC HONORS

VA Pre-Doctoral Fellow	Human Engineering Research Laboratories University of Pittsburgh	2007- 2009
NSF, IGERT, Pre-Doctoral Fellow	Human Engineering Research Laboratories University of Pittsburgh	2006-2007

GRANTS AWARDED

1. **Rice I,** Jan Y & Bleakney A. *Pressure Management in in Adapted Sports.* Paralyzed Veterans of America(PVA) Education Foundation. (Grant # 817). 6/01/2017- 5/31/2018. \$48,709.00 (Role PI 12%)
2. **Rice I,** Rice L, Sosnoff J & Ratnam R. *Home Based Telerehabilitation Training System for Veterans with Spinal Cord Injury.* Chez Family Foundation Center for Wounded Veterans in Higher Education seed funding program, University of Illinois Urbana Champaign. (#4455). 1/19/2016-12/30/2016. \$30,000. [Role PI (No support)]
3. **Rice I** & Jan Y. *Sustainable Sports Science Instructional Program for VA Athletes and Coaches* Department of Veterans Affairs (VA), Adapted Sports Grant (581 VA 2016-ASG-66). 9/1/2015-3/01/2017. \$40,000. [Role PI (No support)]

4. Rice, L.A., **Rice, I.M.** *Enhancement of Community Participation Among Full Time Wheeled Mobility Device Users.* University of Illinois Campus Research Board. May 1, 2015 – November 30, 2016. \$29,025. (Role: Co- I)
5. **Rice I** & Woods J. Fitnex Instrumented Treadmill and Motion Capture System for Disability Studies Office of the Provost/Vice Chancellor for Research Equipment Funding Program. UIUC 2015, \$140,000.
6. **Rice I**, Hedrick, B, Sosnoff J& Rice, L. (2013-14) *Impact of Wheelchair Propulsion and Transfer Training on Reducing Shoulder Pain and Increasing Community Participation in Pediatric Manual Wheelchair Users with Physical Disabilities.* University of Illinois Center on Health Aging, and Disability(CHAD) Award. 9/1/2013-9/1/2014. \$19,780. [Role PI (No support)]
7. **Rice I**, Motl R & Rice, L *Promoting Physical Activity through a Manual Wheelchair Propulsion Activity Intervention in Persons with Multiple Sclerosis.* National Multiple Sclerosis Society (# IL 0005)10/5/2012-11/05/2013. \$109,679. [Role: PI (35%)]
8. Cooper, R., Crytzer T M, **Rice I** & Oyster, ML. *Development of clinical practice guidelines for the racing smart wheel.* Veterans Administration, VAPHS Pilot Grant. May, 2013- September, 2013. \$15,000. (Role: Co-I)
9. **Rice I**,& Sosnoff, J. *Effects of Wheelchair Configuration on Manual Wheelchair Propulsion Training in Reducing Injurious Propulsion Biomechanics in Novice Individuals.* University of Illinois Research Board, Award 12078, 3/1/2012-5/31/2013. \$22,620. [Role PI (No support)]
10. Crytzer T M, **Rice I** & Oyster, ML. *Development of Clinical Practice Guidelines for the Racing Smart Wheel.* Veterans Administration Pilot Grant, 2012. \$25,000. [Role Co-PI (No support)]

GRANTS PENDING

1. **Rice IM**, Pohlig R & Cohen ML. *Influence of cognitive functioning on self-care management and prevention of secondary health complications in persons with traumatic SCI.* Craig H. Neilsen Foundation, Psychosocial Research. \$200,000, Role: PI, Status: In Review
2. **Rice IM**, Pohlig R & Cohen ML. *Influence of cognitive functioning on self-care management and prevention of secondary health complications in persons with traumatic Spinal Cord Injury (SCI), Pilot Investigation.* University of Illinois Center on Health Aging, and Disability(CHAD). \$24,600, Role: PI, Status: In Review
3. **Rice IM**, Bleakney A & Jan Y. *Pressure Management in Adapted Sports.* Paralyzed Veterans of America(PVA) Education Foundation Grant. 6/01/2017-5/31/2018. \$48,709, Role PI, Status: In Review
4. Rice, L.A., **Rice, I.M.**, Sosnoff, J.J., Peterson, E.W., Pedersen, J.P., Jain, S., Anshel, A., Ehrlich-Jones, L.S. *Transfer Training for Full Time Wheeled Mobility Users Living with Spinal Cord Injury in Acute Inpatient Rehabilitation.* Department of the Army (DOD Spinal Cord Injury Clinical Trial Award), January 15, 2018 – January 14, 2022. Role: Co-I, \$1,872,886.00, Status: In Review

PUBLICATIONS

1. **Rice I**, Jayaraman, C., & Pohlig R. (2017). The Short Term Influence of Rear Wheel Axle Position and Training on Manual Wheelchair Propulsion Technique in Novice Able Bodied Participants during Steady State Treadmill Propulsion. *Disability and Rehabilitation, Assistive Technology*. In review
2. Dysterheft, J., **Rice, I.**, Learmonth, Y., Kinnett-Hopkins, D., & Motl, R. (2017). Effects of Daily Physical Activity Level on Manual Wheelchair Propulsion Technique in Full-Time Manual Wheelchair Users During Steady-State Treadmill Propulsion. *Arch Phys Med Rehabil*. doi:10.1016/j.apmr.2017.01.007
3. Rice, L & **Rice I** (2017). Evidenced Based Education Interventions to Preserve Upper Limb Function Among Full Time Manual Wheelchair Users. *Medical Research Archives*, 5(3).
4. **Rice I**, Pohlig R., Dysterheft J & Motl R. (2017). How does Vector Magnitude Obtained from Wrist Worn Actigraphy Relate to Kinetic and Spatiotemporal Measures of Wheelchair Propulsion Technique at Different Speeds. *Sports Medicine and Rehabilitation Journal*, 2(1), 1013.
5. Dysterheft JL, C. G., Rice L & **Rice I**. (2017). Investigating the Outcomes and Perceptions of an Inclusive Aquatic Exercise Class for University Students with Physical Disabilities. *Journal of Postsecondary Education and Disability*.
6. Learmonth, Y. C., Kinnett-Hopkins, D., **Rice, I. M.**, Dysterheft, J. L., & Motl, R. W. (2016). Accelerometer output and its association with energy expenditure during manual wheelchair propulsion. *Spinal Cord*, 54(2), 110-114. doi:10.1038/sc.2015.33
7. **Rice, I.**, Dysterheft, J., Bleakney, A. W., & Cooper, R. A. (2016). The Influence of Glove Type on Simulated Wheelchair Racing Propulsion: A Pilot Study. *Int J Sports Med*, 37(1), 30-35. doi:10.1055/s-0035-1555926
8. Dysterheft JL, L. P., Hubbard E, Jones O, Rice L & **Rice I**. (2016). A mixed methods exploration of how university students with physical disabilities perceive physical activity and the influence of perceptions on physical activity levels. *Cogent Medicine journal*. doi:10.1080/2331205X.2016.1196809
9. **Rice I**. (2016). Recent Salient Literature Pertaining to the Use of Technology in Wheelchair Sports. *Current Physical Medicine and Rehabilitation Reports*, 4(4), 329-335.
10. Rice, L. A., Dysterheft, J. L., Sanders, E., & **Rice, I. M.** (2016). Short-term influence of transfer training among full time pediatric wheelchair users: A randomized trial. *J Spinal Cord Med*, 1-9. doi:10.1080/10790268.2016.1149292
11. **Rice, I. M.**, Wong, A. W., Salentine, B. A., & Rice, L. A. (2015). Differences in participation based on self-esteem in power and manual wheelchair users on a university campus: a pilot study. *Disabil Rehabil Assist Technol*, 10(2), 102-107. doi:10.3109/17483107.2013.840864
12. Dysterheft, J. L., **Rice, I. M.**, & Rice, L. A. (2015). Influence of handrim wheelchair propulsion training in adolescent wheelchair users, a pilot study. *Front Bioeng Biotechnol*, 3, 68. doi:10.3389/fbioe.2015.00068

13. Learmonth, Y. C., **Rice, I. M.**, Ostler, T., Rice, L. A., & Motl, R. W. (2015). Perspectives on Physical Activity Among People with Multiple Sclerosis Who Are Wheelchair Users: Informing the Design of Future Interventions. *Int J MS Care*, 17(3), 109-119. doi:10.7224/1537-2073.2014-018
14. **Rice, I. M.**, Rice, L. A., & Motl, R. W. (2015). Promoting Physical Activity Through a Manual Wheelchair Propulsion Intervention in Persons With Multiple Sclerosis. *Arch Phys Med Rehabil*, 96(10), 1850-1858. doi:10.1016/j.apmr.2015.06.011
15. Liao, F., Liao, B. Y., **Rice, I. M.**, Elliott, J., Brooks, I., & Jan, Y. K. (2015). Using local scale exponent to characterize heart rate variability in response to postural changes in people with spinal cord injury. *Front Physiol*, 6, 142. doi:10.3389/fphys.2015.00142
16. Sosnoff, J. J., **Rice, I. M.**, Hsiao-Weckler, E. T., Hsu, I. M., Jayaraman, C., & Moon, Y. (2015). Variability in Wheelchair Propulsion: A New Window into an Old Problem. *Front Bioeng Biotechnol*, 3, 105. doi:10.3389/fbioe.2015.00105
17. **Rice, I. M.**, Jayaraman, C., Hsiao-Weckler, E. T., & Sosnoff, J. J. (2014). Relationship between shoulder pain and kinetic and temporal-spatial variability in wheelchair users. *Arch Phys Med Rehabil*, 95(4), 699-704. doi:10.1016/j.apmr.2013.11.005
18. Jayaraman, C., Moon, Y., **Rice, I. M.**, Hsiao Weckler, E. T., Beck, C. L., & Sosnoff, J. J. (2014). Shoulder pain and cycle to cycle kinematic spatial variability during recovery phase in manual wheelchair users: a pilot investigation. *PLoS One*, 9(3), e89794. doi:10.1371/journal.pone.0089794
19. **Rice, I. M.**, Pohlig, R. T., Gallagher, J. D., & Boninger, M. L. (2013). Handrim wheelchair propulsion training effect on overground propulsion using biomechanical real-time visual feedback. *Arch Phys Med Rehabil*, 94(2), 256-263. doi:10.1016/j.apmr.2012.09.014
20. Moon, Y., Jayaraman, C., Hsu, I. M., **Rice, I. M.**, Hsiao-Weckler, E. T., & Sosnoff, J. J. (2013). Variability of peak shoulder force during wheelchair propulsion in manual wheelchair users with and without shoulder pain. *Clin Biomech (Bristol, Avon)*, 28(9-10), 967-972. doi:10.1016/j.clinbiomech.2013.10.004
21. Koontz, A. M., Worobey, L. A., **Rice, I. M.**, Collinger, J. L., & Boninger, M. L. (2012). Comparison between overground and dynamometer manual wheelchair propulsion. *J Appl Biomech*, 28(4), 412-419.
22. Laferrier JZ, **Rice I.**, Pearlman J, Spornier M, Cooper RM, Liu H, Cooper RA. (2012). Technology to Improve Sports Performance in Wheelchair Sports. *Sports Technology*, 5(1-2), 4-19.
23. **Rice, I.**, Gagnon, D., Gallagher, J., & Boninger, M. (2010). Hand rim wheelchair propulsion training using biomechanical real-time visual feedback based on motor learning theory principles. *J Spinal Cord Med*, 33(1), 33-42.
24. Cooper, R. A., Koontz, A. M., Ding, D., Kelleher, A., **Rice, I.**, & Cooper, R. (2010). Manual wheeled mobility--current and future developments from the human engineering research laboratories. *Disabil Rehabil*, 32(26), 2210-2221. doi:10.3109/09638288.2010.517599
25. **Rice, I.**, Impink, B., Niyonkuru, C., & Boninger, M. (2009). Manual wheelchair stroke characteristics during an extended period of propulsion. *Spinal Cord*, 47(5), 413-417. doi:10.1038/sc.2008.139

26. Furui T, S., Furui M & **Rice I.** (2008). The grass-roots activism of people with cerebral palsy in Japan: Early protest confronting the inaccessible bus system. *Journal of Osaka Kawasaki*, 29(11-12), 963-967.
27. Authier, E. L., Pearlman, J., Allegretti, A. L., **Rice, I.**, & Cooper, R. A. (2007). A sports wheelchair for low-income countries. *Disabil Rehabil*, 29(11-12), 963-967.
doi:10.1080/09638280701240714

Book Chapters

1. **Rice I.**, F. Hettinga, J.Z. Laferrier, M. Sporer, C.M. Heiner, B. Burkett, R.A. Cooper. *The Paralympic Athlete: Handbook of Sports Medicine and Science*, Yves Vanlandewijck and Walter Thompson, Editors, Wiley and Blackwell. Biomechanics (Chapter 2), pp. 33-50, 2011.
2. **Rice, I.**, Laferrier JZ. *Warrior Transition Leader Medical Rehabilitation Handbook*, edited by LTC Paul F. Pasquina, MD, Rory Cooper, PhD, and Ron Drach. Washington, DC: Department of the Army, Office of The Surgeon General, Borden Institute, 2011.
3. Liu H, **Rice I.**, Laferrier JZ, Cooper RA, Boninger ML, Cooper RM. *Wheelchair Sports*. Vicky Goosey-Tolfrey, Editor, Human Kinetics. Sports Chair Set-up and Selection, 2010
4. **Rice I.**, Cooper RA, Cooper RM, Kelleher AR, Boyles A. *Sports and Recreation for People with Spinal Cord Injuries* (Chapter 19), 2008, pp. 455-477.
5. Cooper RA, Boninger ML, **Rice I.**, Shimada SD, Cooper RM. *Elite Athletes with Impairments, Exercise in Rehabilitation Medicine, 2nd Edition*, W.R. Frontera, Editor-in-Chief, Human Kinetics Publishing, Champaign, IL, 2006. Chapter 21, pp. 332-353.

INVITED PRESENTATIONS

Rice I. *Manual Wheelchair Propulsion and Biomechanics*. National Registry of Rehabilitation Technology Suppliers (NRRTS) Webinar. December 10, 2015.

Dysterheft J, Rice L & **Rice I.** *Influence of hand rim wheelchair propulsion training in adolescent wheelchair users*. Rehabilitation Engineering Specialists of North America (RESNA). Student scientific paper competition winner (\$1000), Denver CO June 28, 2015.

Rice I. *Targeting modifiable Factors to improve quality of life in wheelchair users across a lifespan*. Chittenden Symposium on Mobility, Technology and the Future of Health Champaign, IL, January 29, 2015.

Rice, I. *Maximizing the functional potential of manual wheelchair users; Translating research into daily practice*. Rehabilitation Institute of Chicago (RIC) 37th Annual Spinal Cord Interdisciplinary Course, Chicago, IL, June, 2014 [keynote speaker].

Rice I., Blauwet C, & Rice LA. *Presentation and Laboratory on adapted wheelchair Sports*. Rehabilitation Institute of Chicago (RIC) 37th Annual Spinal Cord Interdisciplinary Course, Chicago, IL, June 1, 2014

Rice I, Dysterheft J, Bleakney A & Cooper R, *Influence of glove type on wheelchair racing biomechanics*. Wheelchair Track Summit, United States Olympic Committee USOC. Colorado Springs CO, January, 2014.

Rice, I *Biomechanics & training concepts for wheelchair racing & handcycling*. Academy of Spinal Cord Injury Professionals (ASCIP), Las Vegas NV, September, 2013.

Rice I “*DRES Mission to Enhance Quality of Life for Individuals with Disabilities*” Presented to University of Illinois Trustee Karen Hasara. Champaign IL, November, 2010.

Rice I. “*Manual Wheelchair Propulsion Feedback Training Software*”. Faculty Presentation, Washington University Program in Occupational Therapy, St. Louis MO, July 2010.

Rice I. “*Manual Wheelchair Propulsion Training Using Real time Feedback*”. Developing Amazing Leaders Paralympic Conference, US Olympic Training Center, Colorado Springs CO, April, 2009.

Rice I. “*Equipment and Training Considerations for Wheelchair Athletes*”, 23rd International Seating Symposium (ISS) Orlando, FL, March 8, 2007.

Rice I. & Cooper, R. “*Locus of Control-A Client Centered Approach to AT Service Delivery*”, State of the Science Workshop for Polytrauma at Walter Reed Army Medical Center, Washington DC, September, 2006.

Rice, I., Dicianno, B & Cooper, R. “*Wheelchair Racing: Technique, Equipment and Injury Prevention*”. American Academy of Physical Medicine & Rehabilitation Annual Assembly Philadelphia, PA, October 27, 2005.

PEER REVIEWED PROCEEDINGS

Dysterheft, J, Chaparro G, Jones O, Rice LA & **Rice, I**. Investigating the Outcomes and Perceptions of an Aquatic Exercise Class for University Students with Physical Disabilities. *National Association for Adapted Physical Activity (NAFAPA)*, September 21-23, 2017.

Dysterheft, J, Chaparro G, & **Rice, I**. Determinants of Leisure-Time Physical Activity Participation in University Students with Physical Disabilities: A Multi-University Study. *World Congress on Exercise is Medicine®*, and *World Congress on the Basic Science of Exercise and the Brain of the American College of Sports Medicine*. Denver CO. May 31, 2017.

Gacek EA, Pakeltis A, Gaglio A, Daigle S, Jahanian O, Slavens B, **Rice I**, & Hsiao-Weckler E. An Investigation of the Effect of Gear Ratio on Manual Wheelchair Kinetics. *Midwest American Society of Biomechanics*, Grand Rapids, MI. Feb. 23-24, 2017.

Gaglio A, Daigle S, Gacek EA, Jahanian O, Slavens B, **Rice I**, & Hsiao-Weckler E. Validation of an Instrumented Wheelchair Hand Rim” Design of Medical Devices, *American Society of Mechanical Engineering*, Minneapolis, MN. April 10-13, 2017.

Rice, L.A., Dysterheft, J., **Rice, I.M.** Impact of Transfer Training Among Full Time Pediatric Wheelchair Users. *International Seating Symposium*, Vancouver, Canada, March 1-4, 2016.

Dysterheft, J, Chaparro G, Jones O, Rice L & **Rice, I.** Investigating the Outcomes and Perceptions of an Aquatic Exercise Class for University Students with Physical Disabilities. *North American Federation of Adapted Physical Activity (NAFAPA)*, Edmonton, AB, September 21-23, 2016.

Rice I, Dysterheft J, & Rice L. Influence of Hand rim Wheelchair Propulsion Training in Adolescent Wheelchair Users, a Pilot Study. *American Spinal Cord Injury Professionals Conference (ASCIP)*, , Nashville, TN. September 4-7, 2016.

Rice I & Motl R. Physical activity intervention for persons with advanced Multiple Sclerosis. *International Seating Symposium (ISS)*. Nashville TN., 3/1/ 2015.

Learmonth, YC, **Rice, IM,** Ostler, T, Rice, LA, Motl, RW. Implications for Informing the Design & Delivery of Interventions to Increase Physical Activity & Exercise Behaviors in Advanced Multiple Sclerosis. *CMSC ACTRIMS Annual Meeting* 2014.

Sosnoff J, Hsiao-Weckler ET, **Rice I,** ET Jayaraman C & Moon Y. Variability in Wheelchair Propulsion: A New Window into an Old Problem. *American Spinal Cord Injury Professionals Conference(ASCIP)*. St. Louis, Missouri 8/31-9/3/2014. [methodological design award winner]

Rice I & Motl R. Physical activity intervention for persons with advanced Multiple Sclerosis *International Seating Symposium (ISS)* Nashville TN, 3/1/ 2015.

Liao F, Brooks I, Hsieh CW, **Rice IM,** Jankowska MM, and Jan YK. Assessing complexity of heart rate variability in people with spinal cord injury using local scale exponents. *Proceeding of IEEE International Conference on Engineering in Medicine and Biology Society*, 2014.

Learmonth, YC, **Rice, IM,** Ostler, T, Rice, LA, Motl, RW. Implications for Informing the Design & Delivery of Interventions to Increase Physical Activity & Exercise Behaviors in Advanced Multiple Sclerosis. *CMSC ACTRIMS Annual Meeting*, 2014.

Rice I, Jayaraman C. & Sosnoff J Effects of Wheelchair Configuration on Manual Wheelchair Propulsion Training in Reducing Injurious Propulsion Biomechanics in Novice Individuals. *29th International Seating Symposium(ISS)*, Academic Paper Session. Nashville, TN, March, 2013.

Hsu, I.M., Moon, Y., Jayaraman, C., **Rice, I,** Sosnoff J & Hsiao-Weckler E.T Variability of upper extremity kinematics an shoulder pain during wheelchair propulsion: A vector coding analysis. *American Society of Biomechanics(ASB)*. Omaha, NE, September 4-8, 2013.

Jayaraman, C., **Rice I,** Moon, Y., Hsu, I.M., Hsiao-Weckler, H.T., Beck, C & Sosnoff, J.J. A principle component analysis of kinematic variability during wheelchair propulsion. *American Society of Biomechanics(ASB)*. Omaha, NE, September 4-8, 2013.

Moon, Y., Jayaraman, C., Hsu, I. M., **Rice I., M.,** & Hsiao-Weckler, E.T & Sosnoff J.J. Variability of peak shoulder force during wheelchair propulsion: The effect on shoulder pain. *American Society of Biomechanics(ASB)*. Omaha, NE, September 4-8, 2013.

Rice I, Sosnoff J, Jayaraman C, Hsu IM & Hsiao-Weckslers ET. Hand rim force variability during two speeds of wheelchair propulsion. *Proceedings of the Rehabilitation Engineering and Assistive Technology Society of North America Conference*, 2012.

Jayaraman C, Hsu IM, Moon YJ, Hsiao-Weckslers ET, **Rice I**, Sosnoff J & Beck C. Correlation analysis of upper extremity kinematics for manual wheelchair propulsion: A preliminary investigation on coupling between arm segments for people with spinal cord disorder. *American Society of Biomechanics*, 2012.

Jayaraman C, Culp S, Anc Z, Beck C, **Rice I**, Sosnoff J. Correlation analysis of upper extremity motion during manual wheelchair propulsion: A preliminary investigation on coupling between arm segments. *Proceedings of the Rehabilitation Engineering and Assistive Technology Society of North America Conference*, 2012.

Hsua IM, Jayaraman C, Culp S, **Rice I**, Hsiao-Weckslers ET & Sosnoff, J. Variability and complexity of shoulder motion during wheelchair propulsion. *Proceedings of the Rehabilitation Engineering and Assistive Technology Society of North America Conference*, 2012.

Salatin B, **Rice I**, Teodorski E, Ding D, Cooper RA. A Survey of Outdoor Electric Powered Wheelchair Driving. *Proceedings of the Rehabilitation Engineering and Assistive Technology Society of North America Conference*, Las Vegas, NV, CD-Rom, June 26-30, 2010.

Rice I. Manual Wheelchair Propulsion Feedback Training Software. *Proceedings of the International Seating Symposium*, pp. 121-122, Orlando, FL, March 12-19, 2009.

Rice I, Boninger ML, Price R, Gallagher J. Manual Wheelchair Propulsion Feedback Training Software. *Institute for Rehabilitation and Research Day*, University of Pittsburgh, June 6, 2008.

Turkovich, M, Koontz AM, Cowan R, **Rice I**, Boninger ML. The Effect of Shoulder Position on Pushrim Forces during Over Ground Manual Wheelchair Propulsion. *Proceedings of the Annual RESNA Conference*, Arlington VA, CD-ROM, June 26-30, 2008.

Betz K, Cooper RA, **Rice I**, Dicianno BE. Adaptive Sports: Professional Roles in Supporting Athlete Participation and Performance, *International Seating Symposium*, p. 181-184, Orlando, FL, March 8-10, 2007.

Koontz AM, **Rice I**, Cowan R, Boninger ML. Effects of Wheelchair Propulsion Training on Pushrim Kinetics, *American Society of Biomechanics Annual Meeting*, Stanford University, CA, August 22-25, 2007.

Furui T, Furui M, Shiraishi K, Tsuchia Y & **Rice I**. Childhood Interventions and Progressive Functional Limitation Among Adults with Cerebral Palsy at the age of 42, *6th International Congress on Cerebral Palsy*, Bled, Slovenia, April 20-22, 2006.

Furui T, Boninger ML, Hunt PC & **Rice I**. Social Participation of Individuals with Spinal Cord Injuries Making the Transition from Walking to Using a Wheelchair, *Proceedings of the 20th Japanese Conference on the Advancement of Assistive and Rehabilitation Technology (RESJA)*, Saga City, Japan, pp. 188-189, September 2005.

Rice I, Boninger ML, Koontz AM & Cooper RA. Characteristics of the Manual Wheelchair Propulsive Stroke Under Fatigue Conditions, *Proceedings of the 28th Annual RESNA Conference*, Atlanta, GA, CD-ROM, June 25-27, 2005

Furui T, Boninger ML, Hunt PC, Fitzgerald SG & **Rice I**. Effect of Transition from Walking to a Wheelchair on Participation in Spinal Cord Injury, *Proceedings of the 28th Annual RESNA Conference*, Atlanta, GA, CD-ROM, June 25-27, 2005

Koontz AM, **Rice I**, Boninger ML & Cooper RA. Wheelchair Users with SCI Exhibit Paradoxical Trunk Movement During Propulsion, 3rd *International Congress, "Restoration of Wheeled Mobility in Spinal Cord Injury Rehabilitation: State of the Art III,"* Vrije Universiteit, Amsterdam, The Netherlands, April 19-21, 2004.

Rice I, Boninger ML, Souza AL, Cooper RA. Wrist Pain Strength and Function in Individuals with Paraplegia. 26th Annual RESNA Conference, Atlanta, GA, CD-Rom, 2003.

Rice I, Koontz AM, Boninger ML, Cooper RA. An Analysis of Trunk Excursion in Manual Wheelchair Users. 27th Annual RESNA Conference, Orlando, FL, CD-Rom, June 20-22, 2004.

Rice I, Boninger ML, Koontz AM, Cooper RA. Characteristics of the Manual Wheelchair Propulsive Stroke Under Fatigue Conditions. 28th Annual RESNA Conference, Atlanta, GA, CD-ROM, June 25-27, 2005.

Teaching

Courses Taught

- Kin 199 Undergraduate Open Seminar, Disability through Popular Culture: Fall 2016-2017
- REHAB 520 Psychosocial Aspects of Disability(graduate): Spring 2011-2015
- Kin 360 Adapted Physical Education (undergraduate): Fall 2011
- Kin 355 Biomechanics of Human Movement: 2012-2017
- Kin 494 Special Topics in Assistive Technology: 2014-2016

Teaching awards

List of teachers ranked as excellent by their student based on Instructor and Course Evaluation (ICES) questionnaire forms maintained by Measurement and Evaluation, Center for Innovation in Teaching & Learning, UIUC

Fall 2016 for Kin 199

Fall 2015 for 199, 520

Fall 2011 for 360

Students Advised

- Dissertation Committees
 - Kate Rougeau- AN EXAMINATION OF AFFECTIVE CHANGE IN THE ABSENCE OF PHYSICAL SENSATION
 - Sunghoon Shin- SPINAL CORD INJURY AND SEATED POSTURAL CONTROL
 - Karla Wessels- CONCUSSION IN WHEELCHAIR ATHLETES
 - Sara Khosravinasr-A MODEL FOR PREDICTION OF MODERN ASSISTIVE TECHNOLOGY ABANDONMENT AMONG PEOPLE WITH DISABILITIES
 - Alicia Pence- SCHOOL-BASED EXTRACURRICULAR ACTIVITY PARTICIPATION OF SECONDARY STUDENTS WITH SEVERE DISABILITIES
 - Chandrasekaran Jayaraman-SHOULDER PAIN IN MANUAL WHEELCHAIR USERS: TOWARDS A MULTI-DISCIPLINARY SOLUTION FOR A MULTI-FACETED PROBLEM

- Doctoral Thesis Advisor
 - Jennifer Dysterheft
 - Thesis completed (Spring 2016)- INVESTIGATING THE DETERMINANTS AND OUTCOMES OF LEISURE TIME PHYSICAL ACTIVITY PARTICIPATION IN UNIVERSITY STUDENTS WITH PHYSICAL DISABILITIES
 - (graduated spring 2016) Current position- Assistant Professor of Exercise Science, Hamline University

- Master's Advisor and Thesis Advisor
 - Michael Groves 2016-2017
 - Benjamin A. Salentine
 - Chandrasekaran Jayaraman

Reviewing

I have reviewed manuscripts for the following journals:

Archives of Physical Medicine and Rehabilitation, Journal of Applied Biomechanics, Annals of Biomedical Engineering, Cogent Engineering, Medical Engineering & Physics, American Journal of Physical Medicine and Rehabilitation, Spinal Cord, Spinal Cord Injury Medicine, Topics in Spinal Cord Injury Medicine, Topics in Spinal Cord Injury Rehabilitation, Disability and Rehabilitation, Assistive

Technology, Medical Engineering & Physics & Journal of Electromyography and Kinesiology, Journal of Aging Research, Transactions on Neural Systems and Rehabilitation Engineering, Sports Medicine and Rehabilitation Journal, Journal of Sports Medicine and Therapy, Disability and Health Journal, Journal of Healthcare engineering, Journal of Rehabilitation Research & Development, PLOS ONE

(Grant reviewer)

- University of Missouri Spinal Cord Injuries Research Program, 2011-2014
- Natural Sciences and Engineering Research Council of Canada (NSERC). Discovery Grant Reviewer

(Journal Editor)

- Sports Medicine and Rehabilitation Journal (Remedy Publications LLC.), 2017

Professional Membership/Service

Visiting Advisory Board for Diversity and Equity.
Vanderbilt University

May 2016

Rehabilitation Engineering and Assistive
Technology Society of North America (RESNA)
Professional Standards Board

2013-2016

American Spinal Cord Injury Professionals (ASCIP)

2015-present