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### **Education**

Ph.D. Biomedical Engineering (2015). University of Nebraska, Lincoln, NE.  
M.S. Mechanical Engineering (2012). University of Nebraska, Lincoln, NE.  
B.S. Mechanical Engineering (2010). Florida State University, Tallahassee, FL.  
Minors: Mathematics, Physics, and Biology (2010). Florida State University, Tallahassee, FL.

## **SELECTED ARTICLES**

Burnfield JM, Buster TW, Pfeifer CM, Irons SL, Cesar GM, Nelson CA (2018). Adapted motor-assisted elliptical for rehabilitation of children with physical disabilities. *ASME Journal of Medical Devices*, published online ahead of print, September 26, 2018. DOI: 10.1115/1.4041588.

Pfeifer CM, Rowan D, Buster TW, Cesar GM, Irons SL, Burnfield JM (2018). Design and validation of a heart rate and speed monitoring device with Intelligently Controlled Assistive Rehabilitation Elliptical. *ASME Journal of Medical Devices*, published online ahead of print, August 29, 2018. DOI: 10.1115/1.4041337.

Burnfield JM, Cesar GM, Buster TW, Irons SL, Pfeifer CM (2018). Walking and fitness improvements in child with diplegic CP following motor-assisted elliptical intervention. *Pediatric Physical Therapy*, 30(4):E1-E7. DOI: 10.1097/PEP.0000000000000541.

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Pfeifer CM, Burnfield JM, Cesar CM, Twedt MH, Hawks JA. (2016) Video Capture and Post Processing Technique for Approximating 3D Projectile Trajectory. Accepted - *Journal of Sports Technology*.

Hawks JA, Twedt MH, Pfeifer CM, et al. (2015) Ocular Blood Flow Response to Applied Force: In Vivo Tests Towards Noninvasive Intracranial Pressure Monitoring. *ASME Journal of Medical Devices*. 2015; 9(2).

Pfeifer CM, Burnfield JM, Twedt MH, Cesar GM, Hawks, JA. (2016) Video Capture and Post Processing Technique for Approximating 3D Projectile Trajectory. In review: *Journal of Sports Technology*.

Pfeifer CM, Biomechanical Investigation of Elite Place-Kicking (2015) Dissertation University of Nebraska-Lincoln

## **SELECTED ABSTRACTS**

Pfeifer CM, Whorley BA, Buster TW, Cesar GM, Burnfield JM. Investigation of center of pressure during gait and motor-assisted elliptical training in adults. Accepted, American Congress of Rehabilitation Medicine 2018 Annual Conference.

Burnfield JM, Cesar GM, Buster TW, Pfeifer CM, Anglehart CM, Klem CJ, Dasgupta P, Nelson CA. Perceived value of modular self-reconfigurable robot for reaching/retrieving by individuals with SCI. Archives of Physical Medicine and Rehabilitation

Burnfield JM, Buster TW, Irons SL, Rech N, Cesar GM, Pfeifer CM, Nelson CA (2016). Pediatric Intelligently Controlled Assistive Rehabilitation Elliptical for walking and fitness: Prototype development and biomedical analysis. To be presented at Rehabilitation Engineering Society of North America/National Coalition for Assistive and Rehab Technology (RESNA/NCART) 2016 annual convention, Arlington, VA.

Hawks JA, Twedt M, Pfeifer CM, Bashford GR (2015). Ocular Blood Flow Response to Applied Force: In Vivo Tests Towards Noninvasive ICP Monitoring. Design of Medical Devices,; Minneapolis, MN.

Hawks JA, Twedt M, Pfeifer CM, Gigantelli J, Thorell W, Bashford GR (2015). In Vivo Testing of Noninvasive ICP Monitoring Methodology in a Porcine Model. Human Research Program Investigators' Workshop ; Galveston, TX.

Pfeifer CM, Burnfield JM, Kota S, Buster TW, Irons SL, Rowen DA, Nelson CA (2016). Positive Reinforcement System Design for Therapeutic Devices. Paper and Podium Presentation to be presented at RESNA/NCART (Rehabilitation Engineering Society of North America/National Coalition for Assistive and Rehab Technology) 2016 annual convention, July 10-14, Arlington, VA.

Pfeifer CM, Burnfield JM, Kota S, Buster TW, Irons SL, Sulski C, Nelson CA (2016). Design of a Custom Heart-Rate Control System for the Pediatric Intelligently Controlled Assistive Rehabilitation Elliptical. Paper to be presented at RESNA/NCART (Rehabilitation Engineering Society of North America/National Coalition for Assistive and Rehab Technology) 2016 annual convention, July 10-14, Arlington, VA.

Pfeifer CM, Burnfield JM, Twedt MH, Cesar GM, Hasenkamp R, Hawks, JA. (2015) Post Processing Technique for Approximating Projectile Trajectory in 3D Space. 24th Annual Meeting of the European Society of Movement Analysis in Adults and Children (ESMAC). Heidelberg, Germany.

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Pfeifer CM, Twedt MH, Gigantelli J, Thorell W, Bashford GR, Hawks JA (2015). In Vivo Testing of Noninvasive ICP Monitoring Methodology in a Porcine Model. Proceedings for the 2015 Design of Medical Devices Conference Minneapolis, MN.