

**CURRICULUM VITAE**  
**MATTHEW J. PETERSON, PHD**

**PERSONAL INFORMATION**

Work Address:       HSR&D/RR&D Center of Innovation on Disability and  
                          Rehabilitation Research (CINDRR)  
                          James A. Haley Veterans Medical Center (151R)  
                          8900 Grand Oak Circle, Tampa, FL 33637  
                          813-558-3979 (office), 813-631-3493 (fax)  
                          [Matthew.Peterson1@va.gov](mailto:Matthew.Peterson1@va.gov)

**EDUCATION**

2009                    Doctor of Philosophy, Biomedical Engineering  
                          University of Florida, Gainesville, FL  
                          Dissertation: Pressure Ulcer Prevention Research

2007                    Master of Engineering, Biomedical Engineering  
                          University of Florida, Gainesville, FL

2004                    Bachelor of Science, Biomedical Engineering  
                          Saint Louis University, St. Louis, MO  
                          Senior Project: Mouse Fetal Membranes: Pipet Aspiration

**PROFESSIONAL EXPERIENCE**

2010 – present        Research Biomedical Engineer  
                          HSR&D/RR&D Center of Innovation on Disability and  
                          Rehabilitation Research (CINDRR)  
                          James A. Haley Veterans Medical Center, Tampa, FL

2013 – present        Courtesy Assistant Professor  
                          Department of Computer Science and Engineering,  
                          University of South Florida, Tampa, FL

2013 – present        Courtesy Assistant Professor  
                          Department of Chemical and Biomedical Engineering,  
                          University of South Florida, Tampa, FL

2009 – 2010          Postdoctoral Research Assistant  
                          Department of Anesthesiology, University of Florida, Gainesville, FL

2004 – 2009          Graduate Research Assistant  
                          Department of Biomedical Engineering, University of Florida, Gainesville, FL  
                          Department of Anesthesiology, University of Florida, Gainesville, FL

2003 – 2004          Laboratory Technician  
                          Orion Genomics, St. Louis, MO

## HONORS AND AWARDS

- 2013                    Scholar, 2013 NIH Mobile Health (mHealth) Summer Training Institute, University of California Los Angeles (UCLA), Los Angeles, CA
- 2012                    Scholar, 10th Annual Intensive Workshop on Grant Writing, Preparation, and Submission in Rehabilitation Research  
Enhancing Rehabilitation Research in the South, Charlottesville, VA
- 2011                    Young Investigator Poster Award  
National Pressure Ulcer Advisory Panel, Las Vegas, NV
- 2010                    Patient Safety Research Finalist  
National Patient Safety Foundation
- 2004 – 2008            Alumni Fellowship, full tuition waiver and yearly stipend  
University of Florida, Gainesville, FL
- 2004                    Alpha Chi National College Honor Society
- 2004                    Golden Key National Honor Society
- 2002                    Mathematics Award  
Department of Mathematics, Saint Louis University, St. Louis, MO
- 2001                    Calculus Award  
Department of Mathematics, Saint Louis University, St. Louis, MO
- 2000 – 2004            Dean's Scholarship  
Saint Louis University, St. Louis, MO

## PATENTS

- 2011                    Lampotang S, Gravenstein N, Lizdas D, Luria I, **Peterson MJ**. Interactive mixed reality system and uses thereof. WO 2011/127379, issued October 13, 2011.

## ONGOING FUNDED RESEARCH

- Source:                Rehabilitation Research & Development (RR&D) Service (F0796-R)  
Title:                    Active and passive gait perturbation systems to improve fall risk assessment  
Dates:                  September 2012 – August 2015  
Award:                 \$824,679  
Role:                    **Principal Investigator**

The goal of this study is to design, construct, and test active and passive gait perturbation systems to evaluate fall avoidance and recovery ability. The active surface will consist of five discrete perturbation systems

embedded into the laboratory flooring. This surface will evaluate the subject's ability to recover from impending falls and is intended for use as a research study outcome.

Source: DOD CDMRP SCIRP Hypothesis Development Award (SC090613)  
Title: Spinal Cord Injury (SCI) Survey to Determine Pressure Ulcer Vulnerability in the Outpatient Population  
Dates: October 2010 – July 2014  
Award: \$134,000  
Role: **Principal Investigator**

The purpose of this study is to identify the risk factors that result in pressure ulcers in spinal cord injured patients including the use of ultrasound to take anthropometric measurements.

### **COMPLETED FUNDED RESEARCH**

Source: SCI QUERI Locally Initiated Project  
Title: Skin self-inspection for pressure ulcer prevention in SCI  
Dates: May 2013 – February 2014  
Award: \$25,000  
Role: **Co-Principal Investigator** with Harrow

The purpose of this project is to conduct a comprehensive survey of devices and technology suitable for use for skin inspection in SCI subpopulations based on disability and body habitus, and perform laboratory-based trials of the selected devices to determine how well the device works for detecting erythema and Stage I pressure ulcers.

Source: VA Central Office  
Title: Threats to skin integrity associated with the use of patient handling slings in Veterans with SCI  
Dates: 2011-2013  
Award: \$600,000  
Role: **Principal Investigator**

The purpose of this study is to evaluate the safety of patient handling slings used in everyday living in patients with spinal cord injuries to find the optimal practices in managing the patients and in implementing these guideline recommendations in VA SCI Centers.

Source: Rehabilitation Research & Development (RR&D) Service  
Title: Service Dogs for Veterans with Post Traumatic Stress Disorder (PTSD)  
Dates: 2011-2014  
Award: \$950,000  
Role: **Co-Investigator** (PI: Groer)

The purpose of this study is to evaluate the use of service dogs for veterans who have been diagnosed with PTSD.

Source: Rehabilitation Research & Development (RR&D) Service  
Title: Supplemental funds for purchase of pressure ulcer prevention and detection research equipment  
Dates: March 2011  
Award: \$85,000  
Role: **Principal Investigator**

The purpose of this funding was to purchase interface pressure mapping equipment and high-frequency, high-resolution ultrasound imaging equipment for pressure ulcer prevention and early detection research.

### **ARTICLES IN PEER-REVIEWED JOURNALS**

- 2013 **Peterson MJ**, Gravenstein N, Schwab WK, van Oostrom JH, Caruso LJ. Patient repositioning and pressure ulcer risk—Monitoring interface pressures of at-risk patients. *Journal of Rehabilitation Research and Development*. 2013;50(4):477-88.
- 2010 **Peterson MJ**, Schwab W, van Oostrom JH, Gravenstein N, Caruso LJ. Effects of turning on skin-bed interface pressures in healthy adults. *Journal of Advanced Nursing*. 2010;66(7):1556-1564.
- 2008 **Peterson MJ**, Schwab W, McCutcheon K, van Oostrom JH, Gravenstein N, Caruso LJ. Effects of elevating the head of bed on interface pressure in volunteers. *Critical Care Medicine*. 2008;36(11):3038-3042.

### **BOOK CHAPTERS**

- 2008 **Peterson MJ**, Fitzgerald KE, Caruso LJ. Prevention of Pressure Injuries in the Intensive Care Unit. In: Gabrielli A, Layon AJ, Yu M, eds. *Civetta, Taylor, and Kirby's Critical Care*. 4<sup>th</sup> ed. Philadelphia: Lippincott Williams & Wilkins; 2008:2495-2502.

### **TEACHING EXPERIENCE**

- 2005 – 2006 Graduate Teaching Assistant  
Department of Biomedical Engineering, University of Florida, Gainesville, FL  
Courses taught: Biomedical Engineering Seminar, Problem Based Learning, Clinical Preceptorship
- 2003 – 2004 Teaching Assistant  
Department of Biomedical Engineering, Saint Louis University, St. Louis, MO  
Courses taught: Biomaterials
- 2001 – 2004 Teaching Assistant  
Department of Chemistry, Saint Louis University, St. Louis, MO  
Courses taught: Chemistry Laboratory

## **THESIS COMMITTEES**

2012 – 2013 Julie Kahn, Committee Co-Chair, Department of Chemical and Biomedical Engineering, University of South Florida, Tampa, FL

## **EDITORIAL ACTIVITIES**

2014 – present Ad-hoc Reviewer, Journal of Wound Care

Ad-hoc Reviewer, Journal of Rehabilitation Research and Development

2013 – present Research & Development Committee Member, James A. Haley VA Medical Center

2012 – present Ad-hoc Reviewer, American Journal of Critical Care

2011 – present Editorial Review Board, Journal of Nursing Education and Practice

2009 Ad-hoc Reviewer, Critical Care Medicine

## **PRESENTATIONS AT NATIONAL MEETINGS**

2014 **Peterson MJ**, Kerrigan M, Gutmann J, Gower K, Kahn J: Pressure Ulcer Risk of Patient Handling Sling Use. Annual Meeting. Safe Patient Handling Conference East, Orlando, Florida, March 24-28, 2014.

**Peterson MJ**, Gutmann J, Harrow J, Kerrigan M, Kahn J: Identifying Pressure Ulcer Risk of Patient Handling Sling Use with Interface Pressure Mapping. Annual Meeting. Expert Scientific Meeting (ESM) 2014, Boston, Massachusetts, July 2-6, 2014.

**Peterson MJ**, Harrow J: Skin self-inspection for pressure ulcer prevention in SCI: an evaluation of devices. Annual Meeting. Paralyzed Veterans of America, Summit 2014, Las Vegas, Nevada, August 26-28, 2014.

2013 **Peterson MJ**, Gutmann J, Harrow J, Kerrigan M, Kahn J: Pressure Ulcer Risk of Patient Handling Sling Use for Veterans with SCI. Annual Meeting. Academy of Spinal Cord Injury Professionals, Las Vegas, Nevada, September 2-4, 2013.

2011 **Peterson MJ**, Lloyd J, Gutmann J: Threats to Skin Integrity Associated with Use of Patient-Handling Slings. Annual Meeting. Academy of Spinal Cord Injury Professionals, Las Vegas, Nevada, September 5-7, 2011.

**Peterson MJ**, Gravenstein N, Schwab W, van Oostrom JH, Caruso L: Patient Repositioning and Pressure Ulcer Risk—Monitoring Interface Pressures of ICU Patients. Biennial Conference. National Pressure Ulcer Advisory Panel, Las Vegas, Nevada, February 25-26, 2011.

- 2010 **Peterson MJ**, Gravenstein N, Schwab W, van Oostrom JH, Caruso L: Monitoring the skin-bed interface pressure profiles of intensive care unit patients at risk for pressure ulcer formation. Annual Patient Safety Congress. National Patient Safety Foundation, Orlando, Florida, May 17-19, 2010.
- 2006 **Peterson MJ**, Schwab W, McCutcheon K, Gravenstein N, Caruso L: Head elevation to reduce ventilator associated pneumonia and skin-ICU bed interface pressures. Annual Meeting. American Society of Anesthesiologists, Chicago, Illinois, October 14-18, 2006.
- Peterson MJ**, Schwab W, McCutcheon K, Gravenstein N, Caruso L: Side turning does not reliably reduce skin-bed interface pressure. Annual Meeting. American Society of Anesthesiologists, Chicago, Illinois, October 14-18, 2006.
- Peterson MJ**, Schwab W, McCutcheon K, Gravenstein N, Caruso L: Head elevation to reduce ventilator associated pneumonia and skin-ICU bed interface pressures. Annual Meeting. American Society of Critical Care Anesthesiologists, Chicago, Illinois, October 13, 2006.
- Peterson MJ**, Schwab W, McCutcheon K, Gravenstein N, Caruso L: Side turning does not reliably reduce skin-bed interface pressure. Annual Meeting. American Society of Critical Care Anesthesiologists, Chicago, Illinois, October 13, 2006.

#### **PRESENTATIONS AT REGIONAL MEETINGS**

- 2010 **Peterson MJ**, Gravenstein N, Schwab W, van Oostrom JH, Caruso L: Monitoring the skin-bed interface pressure profiles of intensive care unit patients at risk for pressure ulcer formation. Department of Veterans Affairs Research Symposium. VISN 7 and VISN 8 Research in the Southeast - RFPs to Outcomes: Translating Research to Practice, Orlando, Florida, July 21-23, 2010.

#### **LOCAL PRESENTATIONS**

- 2014 **Peterson MJ**, Jongprasithporn M, Carey S: Active and Passive Gait Perturbation Systems to Improve Fall Risk Assessment: Protocols and Preliminary Results. VA Research Day, Tampa, Florida, June 19, 2014.
- 2013 **Peterson MJ**, Kerrigan M, Gutmann J, Gower K, Kahn J: Pressure Ulcer Risk of Patient Handling Sling Use. VA Research Day, Tampa, Florida, April 25, 2013.
- 2012 Groer S, Bryant S, McGovern S, Barks L, White K, **Peterson MJ**, Byrd R, Longs M, Sutton B, Barnett B, Lapcevic A, McCranie M, Gibson CA: Service Dogs for Veterans with PTSD. VA Research Day, Tampa, Florida, April 26, 2012.
- 2011 **Peterson MJ**, Gravenstein N, Schwab W, van Oostrom JH, Caruso L: Patient Repositioning and Pressure Ulcer Risk—Monitoring Interface Pressures of ICU Patients. VA Research Day, Tampa, Florida, April 14, 2011.

**Peterson MJ**, Lloyd J, Gutmann J: Threats to Skin Integrity Associated with Use of Patient-Handling Slings. VA Research Day, Tampa, Florida, April 14, 2011.

**VETERANS AFFAIRS COMMITTEES**

- 2014 - present      Co-Chair, Spinal Cord Injury Research Initiative  
James A. Haley Veterans' Hospital & CINDRR
- 2012 – present      Member, Pressure Ulcer Workgroup  
Spinal Cord Injury Quality Enhancement Research Initiative (SCI QUERI)
- 2011 – 2013      Chair, Meeting of the Minds Seminar  
HSR&D/RR&D Center of Excellence: Maximizing Rehabilitation Outcomes