

M. Jason Highsmith

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Education

- 2007 Enrolled in PhD in Biomedical Sciences, Clinical and Translational Research Track at the University of South Florida, College of Medicine. NIH, K30 sponsored program: SPOR (Scholar in Patient Oriented Research). Major Professors: Ken Zuckerman MD (COM), Phillip Marty PhD (COPH), Rajiv Dubey PhD (Mech Eng), William Quillen PT PhD (PT COM).
- 2005 **National Commission on Orthotic & Prosthetic Education (NCOPE)** accredited 1 year residency in Prosthetics at Westcoast Brace & Limb of Tampa, FL.
Resident Research Project Title: Effects and outcomes of gait training using a “hands-free” harness and cable fall-protection system with knee disarticulation and transfemoral amputee subjects. *A pilot study.*
Residency Director: Jason T. Kahle, C.P.O.
- 2004 **Northwestern University**; Feinberg School of Medicine. Chicago, IL.
Certification in Prosthetics (C.P.)
- 2003 **University of St. Augustine**; Institute of Physical Therapy. St. Augustine, FL.
Doctor of Physical Therapy (D.P.T.) Manual Therapy Track.
Capstone Project Title: Evidence Based Physical Therapy Interventions for the Lower Extremity Amputee: A Literature Review.
Capstone Reviewer: Jane Day P.T., Ph.D. University of Florida. Gainesville, FL.
- 2003 **University of South Florida**; College of Medicine. Tampa, FL.
Master of Science in Physical Therapy (M.S.P.T.)
- 2000 **Ironworkers Local Union #397**. Tampa, FL.
Ironworkers Apprenticeship Training Program
Graduated ‘outstanding apprentice’ c/o 2000 to attain Journeyman Ironworker status.
Certifications: 1.) 5G structural steel welding. 2.) MIG Welding. 3.) Oxyacetylene cutting/welding. 4.) Ropes Rappelling. 5.) OSHA Subpart R. 6.) Scaffold Erecting.
- 1997 **University of South Florida**; College of Education. Tampa, FL.
Bachelor of Science in Education (B.S.)
- 1994 **University of South Florida**. Tampa, FL.
Associate in Arts (Pre-Physical Therapy Major) (A.A.)

Professional Experience

- 2005-Present **Visiting Assistant Professor and Project Manager** for “Demonstration Project on Prosthetics and Orthotics”. University of South Florida, College of Medicine, School of Physical Therapy & Rehabilitation Sciences, Tampa, FL.
- 2004-2005 **Resident Prosthetist**, Westcoast Brace & Limb, Tampa, FL.
- 2004-2005 **Physical Therapist**, Loyd Healthcare Staffing, Tampa, FL.
- 2004-Present **Distance Instructor for Prosthetics**, University of St. Augustine, Institute of Physical Therapy, St. Augustine, FL.
- 2003-2004 **Physical Therapist**, Kessler Rehabilitation, Brandon, FL.
- 1997- 2001 **Journeyman Ironworker**, Ironworkers Local Union #397, Tampa, FL.

Professional and Committee Memberships

- 2005- Present Dissertation Committee for Stephanie Carey. University of South Florida. College of Engineering, Mechanical Engineering Department. Dissertation title: “Compensatory Body Motions Influenced by Transradial Prosthetic Design”. Other committee members: R. Dubey, C. Lusk, M. Maitland. Fall 2005-2008.
- 2004- Present Fellow Member (since Apr 2007) American Academy of Orthotists and Prosthetists (AAOP).
- 2006- Present Standards & Protocols Committee (AAOP)
- University of South Florida. School of Physical Therapy & Rehabilitation Sciences (SPTRS).
1. 2007- ct Annual Promotion & Tenure Committee
 2. 2006-‘07 SPTRS Admissions Committee
 2. 2006-‘07 SPTRS New Faculty Search Committee
 3. 2006-‘07 College of Medicine Academic Performance Review Sub-Committee
- 2000- Present American Physical Therapy Association (APTA)
- 2000- Present Florida Physical Therapy Association (FPTA)
- 1997- 2005 International Association of Bridge, Structural, Ornamental and Reinforcing Ironworkers
- 1997- Present University of South Florida Alumni Association

Research Support

*Graduate student supervised by MJ Highsmith

†Invented or Co-Invented Product or Procedure

‡ Patented or Patent Pending

Highsmith MJ (PI), Lusk C (Co-PI), Carey SL *(Co-I), Kahle JT (Co-I), Maitland ME (Co-I). *Kinetic and Kinematic comparison of power assisted versus stance control artificial knees during sit to stand and stand to sit transfers for above knee amputees*. Corporate Travel Grant from Ossur Prosthetics. 07/01/2006-07/01/2007. In Progress Funding at \$5,000. 100% effort.

Highsmith MJ (PI), Maitland ME (Co-PI), Carey SL* (Co-I). *Design, Fabrication and Evaluation of a Terminal Device for Kayaking*. Florida Physical Therapy Association (FPTA), Linda Krane Research Grant. 06/2006-06/2007. Funded at \$4,000[†]. 100% Effort.

Quillen WS (PI), Dubey R (Co-PI), **Highsmith MJ (Project Mgr)**. *Demonstration Project in Prosthetics and Orthotics*. United States Department of Education (USDOE). 07/01/05-07/01/08. Funded at \$1,000,000. 100% Effort.

Publications

Peer Reviewed:

Highsmith MJ. Barriers to the provision of prosthetic services in the geriatric population. In Press (Feb 2008). *Topics in Geriatric Rehabilitation*.

Kahle JT, **Highsmith MJ**, Hubbard S. Comparison of Non-Microprocessor Prosthetic Knee Mechanisms and the C-Leg in the PEQ, Stumbles and Falls, Walking Tests, Stair Descent, and Knee Preference. In Press (Nov/Dec 2007). *Journal of Rehabilitation, Research and Development*.

Highsmith JT, **Highsmith MJ**. Diagnosis and Management of Skin Pathology in Lower Extremity Prosthetic Users. Case Reviews. In Press (Nov 2007). *The Journal of the American Academy of Physicians Assistants*.

Highsmith MJ, Kahle JT, Hoover RM. Shuttle Lock Release Modification of a Trans-Tibial Prosthesis with an Obese Client: Technical Note. *Prosthet Orthot Int* 2007;31(3):287-91.[†]

Highsmith MJ, Carey SL*, Koelsch KW, Lusk CP, Maitland ME. Kinematic Evaluation of Terminal Devices for Kayaking with Upper Extremity Amputation. *J Prosthet Orthot* 2007;19(3):84-90.[†]

Highsmith MJ, Kahle JT, Carroll K. Prosthetic Knees: An Update on Component Classification. In Review. *Prosthetics Orthotics International*.

Editor Reviewed:

Kahle JT, **Highsmith MJ**. Getting the Most out of Your Prosthesis. *In Motion*. Jul/Aug 2007;17(4): 27-29.

Kahle JT, **Highsmith MJ**. When a Prosthesis or Mobility Device isn't Enough, Part II. *In Motion*. Jan/Feb 2007; 17(1):48-55.

Kahle JT, **Highsmith MJ**. When a Prosthesis or Mobility Device isn't Enough. *In Motion*. May/June 2006; 16(3):18-24.

Highsmith MJ, Kahle JT. A Perfect Fit. *Advanced for Directors of Rehabilitation*. Mar 2006; 15(3):33-4.

Highsmith MJ, Kahle JT. Prosthetic Socks- Simple, Relatively Inexpensive, Critically Important. Is there really that much to know about socks? *In Motion*. Mar/Apr 2006; 16(2):26-8.

Kahle JT, **Highsmith MJ**. Preventing Socket Replacement *In Motion*. May/June 2003; 13:66-7.

In Preparation:

Highsmith MJ, Carey SL*, Koelsch KW, Lusk CP, Maitland ME. Design and Fabrication of a Passive-Function, Cylindrical Grasp Terminal Device for Kayaking: The USF Kayak Hand. *Technical Note*. In review Journal of Prosthetics and Orthotics.†

Highsmith MJ, Lusk C, Carey SL*, Maitland ME. Addition and evaluation of a compliant wrist articulation for a prosthetic kayak terminal device. In Progress.†

Invited Lectures, Abstracts, Continuing Education Lectures & Poster Presentations:

Highsmith MJ. Kinematic Analysis of Functional and Recreational Activities with the Upper Extremity Amputee. Podium Presentation. Louisiana Academy of Orthotists and Prosthetists. July 2007. Shreveport, LA.

Kahle JT, **Highsmith MJ**. The Prosthetic Experience. FPTA course #____. 3 PT CEU's. Funded by Westcoast Brace & Limb. Delivered to Physical Therapists Feb 2007, Tampa, FL.

Carey SL*, **Highsmith MJ**, Dubey R. Compensatory Motion During a Bilateral Lifting Task for Transradial Prosthetic Design. Abstract. ASME Summer Bioengineering Conference. Keystone, CO. June 2007.

Maitland ME, **Highsmith MJ**, Carey SL*, Koelsch K, Lusk C. A Simple Artificial Hand for Cylindrical Grip: The USF Kayak Hand. Abstract. WCPT (World Confederation for Physical Therapy), 15th International Conference "World Physical Therapy 2007". Vancouver, Canada.. June 2007.†

Maitland ME, Lusk CP, **Highsmith MJ**, Carey SL*. A non-anatomical grasp mechanism for artificial hands. Abstract. 12th World Congress of the International Society for Prosthetics and Orthotics. Vancouver, Canada, July 29 –August 3, 2007. †,‡

Carey SL*, Dubey R, **Highsmith MJ**, Maitland ME. Effects of Mass on Upper Limb Joint Angles for Prosthetic Design: A Pilot Study. Poster Presentation October 2006, BMES (Biomedical Engineering Society), Annual Meeting, Northwestern University, Chicago, IL.

Highsmith MJ. Effects of Ambulation in a Fall Protection Harness System with Transfemoral and Knee Disarticulation Subjects. *A Pilot Study*. Poster Presentation March 2006, AAOP (American Academy of Orthotists and Prosthetists), National Meeting, Chicago, IL.†

Highsmith MJ. C-Leg Comparison. Podium Research Presentation. Louisiana Academy of Orthotists and Prosthetists. June 2006. Kenner, LA.

Highsmith MJ, Kahle JT. Lower Extremity Prosthetics: Basic & Intermediate Overview. FPTA course # CE5109249. 2.5 PT CEU's. Funded by Westcoast Brace & Limb. Delivered to Physical Therapists Nov 2005, Tampa, FL.

Kahle JT, **Highsmith MJ**. Conventional vs Microprocessor prosthetic knee joints. FPTA course # CE5048931. 2.5 PT CEU's. Funded by Westcoast Brace & Limb. Delivered to Physical Therapists Aug 2005, Tampa, FL.

Editorial

Peer Review:

Topics in Geriatric Rehabilitation- Manuscript Reviewer

Invited Textbook Reviews:

Text book Review for Pearson Education, Inc., Prentice Hall Health, Upper Saddle River, NJ 07458 (9/2005) on the following Title: Shurr DG, Michael JW. Prosthetics and Orthotics. 2nd ed. ©2002. ISBN 0-8385-8133-1.

Text book Review for Elsevier-Global Medicine Group (9/2005) on the following title: Brotzman SB, Wilk KE. Clinical Orthopaedic Rehabilitation. 2nd ed. Mosby. ©2003. ISBN 0-323-01186-1.

Teaching

University of South Florida. College of Medicine. School of Physical Therapy & Rehabilitation Sciences:

- PHT 8702 Advanced Prosthetics and Orthotics. Primary CI: MJ Highsmith. Lab Asst: JT Kahle. Fall 2007.
- PHT 8266 Clinical Problem Solving 3. Primary CI: D Newman. TA for Prosthetic Unit: MJ Highsmith. Fall 2007.
- PHT 7151 Health Promotion and Wellness. Primary CI: K Shaw. Asst CI: MJ Highsmith. (Preparation of DPT as Primary Care providers in Direct Access environment. Screening of at risk populations, individuals and health program development). DPT pgm. Spring 2007.
- PHT 6284 Scientific and Professional Foundations of Physical Therapy 1. (Overview of PT interventions: Gait, Transfers and O&P). Primary CI: K. Shaw. Guest Lecturer (Prosthetics Unit) & TA (Modalities): MJ Highsmith. Fall 2006, 2007.
- PHT 6174 Movement Science I. Primary CI: MJ Highsmith & J. Stephenson. (Introductory Kinesiology, Biomechanics, Neurology, Gait, Exercise Physiology). DPT pgm. Fall 2006, 2007.
- PHT 6285 Scientific & Professional Foundations of Physical Therapy 2. (Physical Therapy Test & Measurement Techniques). Primary CI: J. Stephenson. Guest Lecturer: MJ Highsmith. DPT pgm. Spring 2006, 2007.
- PHT 8724 Anatomical Basis of Physical Therapy and Rehabilitation. CI: O. Arslan. Co-I: D. Cameron. Course Liasons: MJ Highsmith and JC Garrison. Fall 2007.
- BMS 6100 Anatomy. Primary CI: O. Arslan. Course Liason & Guest Lecturer: MJ Highsmith. B2 Block/Fall/Spring 2006.
- BMS 6500 Physiology. Primary CI: R. Wilson. (Pulmonary case). DPT pgm. Spring 2006.
- PHT 6735 Physical Therapy Science IV. Primary CI: J Stephenson. (Interventions for the complex patient). MSPT pgm. Fall 2006.

University of St. Augustine for Health Sciences. Institute of Physical Therapy:

- PHT 5702 Prosthetics. Primary CI: MJ Highsmith. Lab Asst: K Carroll. (Online Prosthetics & Amputee Rehabilitation Theory with One Day, Hands-On Laboratory Experience). 2004 – Present. Three semesters per academic year.

Service Activities

- July 2007 2nd Annual O&P Extremity Games. University of South Florida representative, kayak event judge and Medical and PT student supervisor. Event hosted by College Park Industries. Held in Orlando, FL. Articles in PT Magazine. Nov 2007 and online at <http://health.usf.edu/medicine/dpt/index.htm> Aug 2007.
- Apr 2007 Health Pre-Professions Organization (HPPO) at Hillsborough Community College (HCC). Advisor, Consultant, Speaker for Physical Therapy, Prosthetics and Orthotics. Founder and Senior Advisor is Professor Elizabeth McCullough, MS.

- Jan 2007 Amputees Together (support group). Spoke with colleague Maureen Dunleavy-Daly, PT, DPT to amputees about typical timelines of rehabilitative/prosthetic milestones and the benefits of physical therapy in recovery and healing.
- July 2006 O&P Extremity Games. University of South Florida representative, Rock Climbing event judge and graduate PT student supervisor. Event hosted by College Park Industries. Held in Orlando, FL. Articles in *PT Magazine*. Sept 2006; 14(9):60 and *The FPTA Update* Sept 2006.
- Jan 2004- Present APTA group leader for “Hooked on Evidence” professional research initiative. Topic is PT intervention for patients with LE amputation. Five articles reviewed to date.
- July 2002 Pro Bono Project- Organized and delivered general health information and free clinic information to homeless persons of St. Petersburg, FL.
- March 2002 PIPSA/AHEC- Eisenhower Middle School- instructor for student tobacco addiction prevention program.