



Renee Parisio ©

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## Seattle Institute for Biomedical and Clinical Research Spotlight Feature

### Joseph Iaquinto, PhD



Joseph Iaquinto, PhD, is a Research Health Science Specialist at the VA RR&D Center of Excellence for Limb Loss Prevention and Prosthetic Engineering and an Affiliate Assistant Professor in the Mechanical Engineering Department at the University of Washington. His research areas include utilizing dual-plane fluoroscopic imaging to measure highly accurate 3D motion of the bones of the lower extremity during dynamic activities such as gait. Initially funded by a VA grant to develop and refine the function of the fluoroscopy system, Dr. Iaquinto has collaborated with University of Washington researchers to improve the processing speed of image matching algorithms. Future goals include expanding this novel technology to clinical research.

In early 2014, Dr. Iaquinto was awarded two research grants. The first is an R03 administered by SIBCR and funded through the NIH's Division of Child Health and Human Development. The aim of this work is to quantify and categorize foot ligament properties through size, composition and function – work which supports predictive modeling and image-based diagnosis. The second award is a VA SPiRE award which evaluates the joint specific errors associated with retro-reflective motion capture by using fluoroscopy as a baseline. This work will enhance the clinical impact of research findings using optical systems by providing error estimates based on marker location.

Together, these awards encompass Dr. Iaquinto's research passion for linking imaging data to the physical state and condition of musculoskeletal tissue, an interest centered on developing advanced and minimally invasive diagnostic techniques.

In addition to developing his research path, Dr. Iaquinto has regularly served on session committees for the American Society of Mechanical Engineer's Summer Bioengineering Division conference, serves as mentor for graduate and undergraduate students and is a reviewer for Foot and Ankle International, Gait and Posture, and Annals of Biomedical Engineering.

Dr. Iaquinto's collaborators on these projects have been William Ledoux, PhD; David Haynor, PhD, MD; Duane Storti, PhD; Yak-Nam Wang, PhD; Michael Hahn, PhD; Grant Marchelli, PhD; and Bruce Sangeorzan, MD.

### Save the Dates

May 2015

5 Tuesday

25th Annual Members Meeting  
Noon  
Building 1, Room 240

May 2015

Wednesday 6

Employee Appreciation Celebration  
11 AM  
Building 1, Rooms 240 & 236b

### Research Seminar Series

The next speaker for the SIBCR sponsored Research Seminar Series is:

Emily C. Williams, PhD, MPH  
Investigator, Health Services Research & Development Veterans Affairs Puget Sound Health Care System  
Assistant Professor, Department of Health Services University of Washington

March 19, 2015  
Noon  
Building 1 Room 240