



Capabilities

Communicating the Science of Prosthetics and Orthotics

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The 2012 and 2006 NUPOC State of the Science Survey Results James Schweitzer (2012 NURERC Scholar) and Stefania Fatone, PhD, BPO(Hons)

As part of the **Rehabilitation Engineering Research Center (RERC) for Prosthetics and Orthotics** that is funded by the **National Institute on Disability and Rehabilitation Research (NIDRR)**, the **Northwestern University Prosthetics-Orthotics Center (NUPOC)** is required to conduct a State of the Science Meeting (SOS). The goal of this meeting is to assess the state of research and explore new directions for research in the field of prosthetics and orthotics. In February 2006, NUPOC held a prior State of the Science meeting that was preceded by an online survey of the broader prosthetics and orthotics community. The information gathered from these activities was compiled in a report that has garnered attention from other researchers when substantiating research endeavors¹⁻⁷. [The 2006 SOS Report is available at: www.nupoc.northwestern.edu/news-publications/papers/sos_reports/SOS_2006report.pdf]

In anticipation of our next State of the Science meeting that will be held later in 2012, we again surveyed the orthotics and prosthetics community. The 2012 survey was advertised on the *oandp-l* and *amp-l* list servers and it was available online from January 29 to March 11, 2012.

Many of the questions on the 2012 survey were similar to those administered in 2006. Analyzing and comparing the results of the two surveys provides insight into changes in the perception of prosthetics and orthotics research that may have occurred during the intervening years. Ideally, the results of these surveys will help generate discussion and formulate recommendations for ongoing discourse regarding clinically-relevant areas of research in prosthetics and orthotics.

The 2012 NUPOC SOS Survey attracted more responses than in 2006 (377 in 2012 vs. 224 in 2006). The increase in number of respondents was likely due to an increase in the number of persons subscribed to the *oandp-l* list server in 2012 (5,462 in 2012 vs. 3300 in 2006). Demographic data suggest that the two cohorts were very similar, with the majority of respondents between 30 and 59 years of age (78% in 2012 vs. 67% in 2006) and their self identification as certified prosthetists, orthotists or prosthetist/orthotists (60% in 2012 vs. 67% in 2006) (Figure 1).

The majority of survey questions focused on respondents' opinions of different aspects of prosthetics

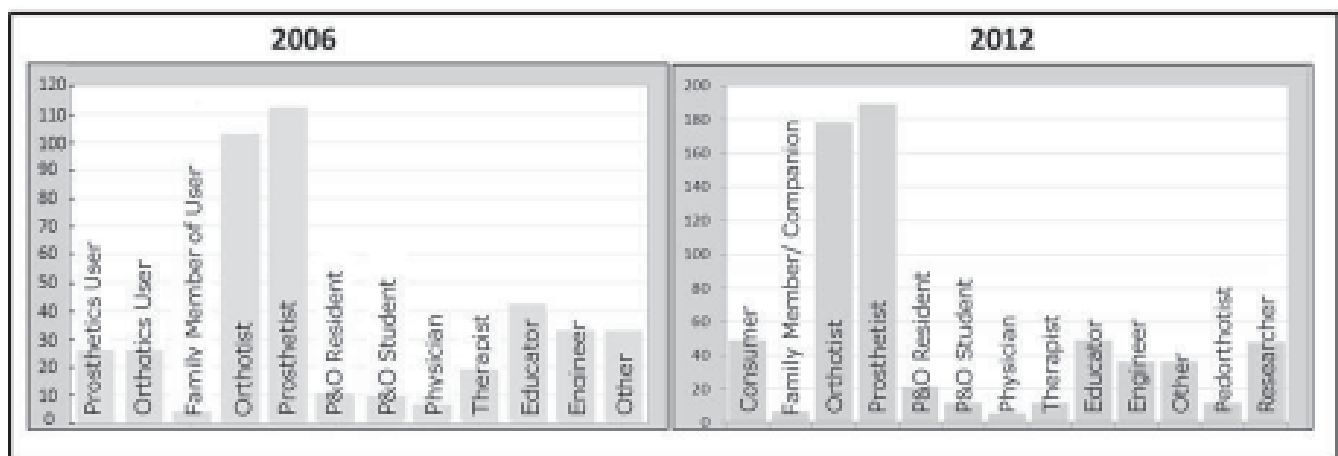


Figure 1: These bar graphs illustrate the number of respondents and their association with P&O in 2006 and 2012. Note that the majority of the respondents fall into the categories of either prosthetist or orthotist.

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and orthotics research. The proportion of respondents who thought that research was important was largely unchanged (93.4% in 2012 vs. 98.2% in 2006). However, the proportion of respondents who believed that the *amount* of prosthetics and orthotics research was lacking decreased to 62.1% in 2012 from 79.9% in 2006. Similarly, the proportion of respondents who thought that the *emphasis* of prosthetics and orthotics research was lacking decreased (45.0% in 2012 vs. 61.2% in 2006). Taken together, these results suggest that perceptions about the *amount* and *appropriateness* of research that is focused on prosthetics and orthotics have improved over the last five years.

The 2012 survey showed an improved perception about the availability of research funding: 53.7% of 2012 respondents believe that insufficient funding prevents research in prosthetics and orthotics compared to 74.6% of the 2006 respondents.

In contrast, the number of respondents who indicated that they had not participated in or conducted research increased (68% in 2012 vs. 54% in 2006). More than 75% of respondents in both cohorts answered “yes” when asked if they could identify areas where research is needed but lacked the ability or resources to carry out that research (Figure 2). In general, funding may not be viewed as limiting prosthetics and orthotics research; however, other factors seem to be constraining the amount of research conducted by certified prosthetists and orthotists.

When asked to rank the top five areas where research should be directed, the two surveys identified the most important research topics almost identically. For both prosthetics and orthotics, *outcome measures* were identified as the most important category needing future research. In both the 2012 and 2006 surveys, other top orthotics research categories were *ankle foot orthoses* and *fabrication/materials*; while the top prosthetics research categories were *socket/interface* and *control of the prosthesis*.

A comparison of the 2012 and 2006 SOS surveys provides

insight into areas of prosthetics and orthotics that are perceived to need additional research, as well as changes in the perceptions about research that have occurred over the last five years. The 2012 NUPOC SOS Survey posed some additional questions that asked respondents to indicate their level of agreement to a series of statements relating to prosthetics and orthotics. Analysis of these additional questions will help craft continuing dialogue with regard to clinically-relevant areas of research in prosthetics and orthotics.

References:

1. National Commission on Orthotics and Prosthetics Education. (2007) Movement to the Professional Master’s In Orthotics and Prosthetics Questions and Answers for the Profession. http://www.ncope.org/assets/pdfs/final_QnA_on_masters_for_web.pdf
2. Klute GK, Kantor C, Darrouzet C, *et al.* (2009) Lower-limb amputee needs assessment using multistakeholder focus-group approach. *Journal of Rehabilitation Research and Development*, 46(3):293-304.
3. Geil M. (2009) Assessing the state of clinically applicable research for evidence-based practice in Papaioannou G, Mitrogiannis C, Nianios G, Fiedler G. (2010) Assessment of amputee socket–stump–residual bone kinematics during strenuous activities using Dynamic Roentgen Stereogrammetric Analysis. *Journal of Biomechanics*, 43:871–878.
4. Ridgewell E, Dobson F, Bach T, Baker R. (2010) A systematic review to determine best practice reporting guidelines for AFO interventions in studies involving children with cerebral palsy. *Prosthetics and Orthotics International* 34(2):129-145.
5. Highsmith MJ, Kahle JT, Bongiorno DR, *et al.* (2010) Safety, energy efficiency, and cost efficacy of the C-Leg for transfemoral amputees: A review of the literature. *Prosthetics and Orthotics International* 34(4):362-377.
6. Andrysek J, Christensen J, Dupuis A. (2011) Factors influencing evidence-based practice in prosthetics and orthotics. *Prosthetics and Orthotics International*, 35(1):30-38.
7. Klute GK, Berge JS, Biggs W, *et al.* (2011) Vacuum-assisted socket suspension compared with pin suspension for lower extremity amputees: effect on fit, activity, and limb volume. *Archives of Physical Medicine and Rehabilitation*, 92:1570-575.

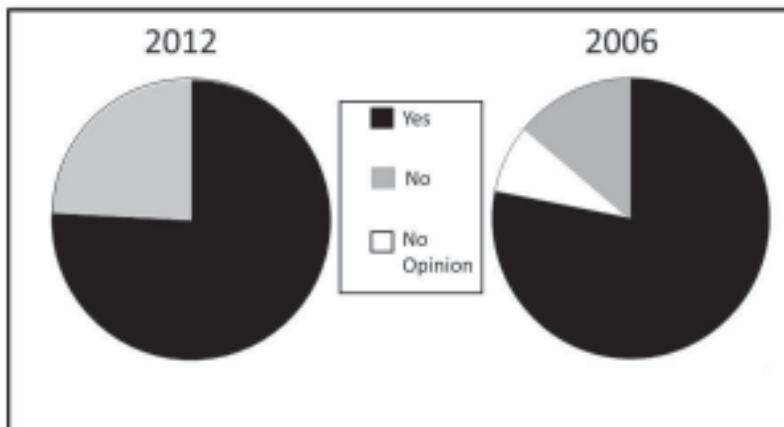


Figure 2: These pie charts indicate the number of respondents that answered “yes” when asked if they could identify areas where research was needed but lacked the ability/resources to conduct the research.

NUPOC and CROR Offer a Free Continuing Education (CE) Opportunity

Lauri Connelly, MS, OTR/L, CCRC
Center for Rehabilitation Outcomes Research (CROR)

Researchers at the **Northwestern University Prosthetics-Orthotics Center** (NUPOC) and the Rehabilitation Institute of Chicago (RIC) are proud to announce a new online, continuing education opportunity for all certified orthotists and prosthetists in the United States. **Linda Ehrlich-Jones**, PhD, RN, (Clinical Research Scientist, CROR, RIC) presents a free, educational module entitled *Quality Improvement: What Is It and How Do We Use It?* This 15-minute presentation has been approved by the American Board for Certification in Orthotics, Prosthetics and Pedorthics (ABC) for 0.5 continuing education credit. To receive credit, learners are required to pass a 10-question quiz and complete a course evaluation at the end of the presentation.

Content includes a description of the benefits of continuous quality improvement efforts and step-by-step instruction on implementing such a project. Quality improvement initiatives have the potential to improve patient service, increase clinician and support staff effectiveness, and minimize cost by continuously identifying areas for targeted improvement. The outcome of such efforts can lead to improved patient satisfaction with clinical services and products, improved function, and, ultimately, improved quality of life.

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Subscription is free to all individuals and institutions interested in prosthetics and orthotics. Issues are archived on the NUPOC website, www.nupoc.northwestern.edu. Send subscription requests and address changes to: *Capabilities*, Northwestern University RERC, 680 North Lake Shore Drive, Suite 1100, Chicago, IL 60611.

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ABC has implemented 10 Performance Management and Improvement Standards for organizational accreditation. These standards direct organizations to use surveys to document patient satisfaction; assess the results; create a performance management plan to address deficiencies; and review the plan at least annually.

Learners will be introduced to an example survey, the Orthotics and Prosthetics Users' Survey (OPUS), which is used to monitor patient functional status, health-related quality of life, and satisfaction with lower-extremity devices and clinical services. OPUS is an instrument that can be used to track patients' feedback over the course of their treatment by collecting patient data at admission, at device delivery, and again at a later follow-up.

As part of the **Rehabilitation Engineering Research Center for Prosthetics and Orthotics** at Northwestern University, funded by the **National Institute on Disability and Rehabilitation Research**, **Allen Heinemann**, PhD, and Linda Ehrlich-Jones, PhD, RN, are leading a quality-improvement research project using the OPUS. This project affords clinical staff an opportunity to receive consultation in implementing the OPUS as part of routine clinical practice. These data allow researchers to provide feedback on their strengths and weaknesses and also provide comparison data with other participating clinics. Each clinic receives expert assistance to create a continuous quality improvement project based on the OPUS results.

CPOs: REGISTER FOR FREE CE!!!

If you would like to register for the free 0.5 Continuing Education credit; or if you would like to learn more about using the OPUS and are interested in participating in this ongoing research project, please contact **Lauri Connelly**, Clinical Research Coordinator: lconnelly@ric.org or call (312) 238-1405.

Meet John Brinkmann, MA, CPO/L, FAAOP

R. J. Garrick, PhD

John Brinkmann, MA, CPO/L, FAAOP, joins NUPOC as a core member of the new faculty for the inaugural Master's in Prosthetics & Orthotics (MPO) program slated to begin in July 2013. He is instructing classroom and laboratory courses in P&O for the remaining NUPOC post-graduate Certificate programs.

Mr. Brinkmann is a second generation prosthetist-orthotist who grew up in Wisconsin working in his German-trained father's P&O facility. A twin and the youngest of ten siblings, Mr. Brinkmann always knew that he would enter the P&O profession. His elder brother, also a CPO, assumed leadership of the family P&O business.

Mr. Brinkmann earned his Bachelor of Science degree in Prosthetics & Orthotics (1990) at the School of Allied Health, University of Texas Southwestern Medical Center (Dallas, TX); and completed clinical rotations at Texas Scottish Rite Children's Hospital, Baylor University Medical Center, and Dallas Rehabilitation Institute. Mr. Brinkmann passed his Boards after completing residencies in Iowa and South Carolina. Since 1999, he has been a practicing P&O and practice manager in a variety of settings, including a multispecialty musculoskeletal practice in Rockford, IL. He has completed numerous certificate courses offered by the American Academy of Orthotists & Prosthetists and has been named a Fellow of that organization. He chairs the Academy's Gait Society and is involved in the Journal Club Committee and the Website Committee.

Mr. Brinkmann has lectured widely to P&O, allied health, and end user groups, and published a series of literature reviews on clinical topics. His clinical interests include advanced P&O lower limb rehabilitation and the translation of P&O research into practical, clinical solutions.

Having seen first-hand the entrepreneurial risks involved in a family-owned business, Mr. Brinkmann has taken courses in accounting and marketing. He identifies ethics, professional responsibility, service, and compassion as important concerns for all P&O practitioners, and examines these values from the



John Brinkmann

perspective of his M.A. in theology. He noted that church work and volunteering played important roles in his childhood upbringing and in his adult family life. *"I see an overlap in my graduate studies in theology and P&O. Both disciplines involve helping people become the best person they can be. I'm very interested in how knowledge gets transmitted to everyday life and practice. Even a highly cognitive area of study can change hearts and lives in practical ways. As P&O educators, we need to know how to teach someone to become a good clinician whose work is guided by*

ethics and respect for the dignity of others."

An enthusiastic learner and educator, Mr. Brinkmann reflected that as a young student, he had a utilitarian approach to education: study just enough and get a job. Later, he came to appreciate and engage in rigorous, academic study. *"My in-laws influenced my perspective on education because they emphasize the inherent value of a liberal arts education. It can be overwhelming to realize how much there is to learn. I want to commit myself with humility to learn from those around me so that I can become the best that I can be."*

A generous educator, Mr. Brinkmann is eager to transmit his knowledge and skills to NUPOC students in the educational, clinical, academic, and practice management areas of P&O.

"Now, at mid-career I ask myself what I bring to the profession. That is, what are the roles that I can best embrace? I believe that success does not happen in isolation, but as part of a team. Best clinical practice, best educational programs, and so on happen as part of a team effort. In my experience, successful team work requires common goals and mutual respect. I know that I want to be part of P&O knowledge translation. Clinicians must become better researchers and I am particularly eager to incorporate P&O research into P&O clinical practice."

Mr. Brinkmann enjoys spending time with his wife, three children and extended family. For exercise, he runs, bikes, and plays golf.

Meet Nydia Marzán-Harding, CPO/L

R. J. Garrick, PhD

As NUPOC prepares to launch its Master's in Prosthetics and Orthotics (MPO), we welcome **Nydia Marzán-Harding**, CPO/L, to the full-time education faculty. A NUPOC graduate, Ms. Marzán-Harding said, *"I knew from my second week at NUPOC that I wanted to teach P&O. I am really happy to have the opportunity to teach NUPOC students. Working with them one-to-one in the fabrication lab is what I enjoy most."*

Building on a life of achievement orientation, while at NUPOC Ms. Marzán-Harding has fixed her sights on several goals: 1) transfer her P&O license from Florida to Illinois; 2) work clinically with pediatric patients and/or veterans at a VA medical center; 3) complete a Master's degree in education; and 4) develop engaging and entertaining information about academic and technical P&O devices for students and clients.

Born and raised in Puerto Rico as part of a large, extended family, she is well-travelled and fluent in both English and Spanish. The product of an eclectic education, Ms. Marzán-Harding attended the Conservatory of Music of San Juan where she studied violin, music theory and voice. In 8th grade, she moved from P.R. to Florida. In high school she was dually enrolled in community college and ultimately skipped her senior year to attend community college where she enjoyed studying algebra, calculus and world religions.

With many interests and avenues to pursue, she felt tugged in multiple directions, from art to science. As a teenager, she remembers that she visited her cousins at Stanford University where she toured a prosthetics laboratory. She said, *"That is when I consciously decided that I wanted to become a prosthetist. At the time, I was not certain how to make that happen. We had many engineers in our family and my mother pointed me in that direction."* She studied mechanical engineering at the Florida Institute of Technology (FIT) where she earned her B.S. degree.



Nydia Marzán-Harding

"After I graduated, I worked for Corning in New York and enjoyed travelling to Japan, Taiwan and all over the USA." After the economic downturn following the 9/11 attack, Ms. Marzán-Harding returned to FIT and began a graduate program in electrical engineering, but shifted her focus to pursue art and the humanities. *"It may not have been realistic, but I enjoyed learning pottery, photography, video editing, acting, speech and graphic design."* In 2003 she married her college sweetheart of five years whom she had met

when they were both engineering students at FIT. They continued to live in Florida.

After Hurricane Ivan, Ms. Marzán-Harding helped with disaster recovery efforts as a FEMA housing inspector. Fortuitously, a Hanger P&O site moved next door to her office. *"I still wanted to be a prosthetist, so I asked if I could shadow or volunteer, and they hired me as a prosthetic-orthotic technician. That experience put me on track. I looked at the NUPOC website, and saw that I had all the prerequisites. I completed the NUPOC prosthetics certificate in 2006 and the orthotics certificate in 2007."* She returned to Hanger P&O in Pensacola, FL, to complete her residency and worked as a CPO at Hanger prior to accepting her current position at NUPOC. Ms. Marzán-Harding is excited to be part of the NUPOC team that will launch the MPO. *"I love being in the lab and helping students. I am interested in feedback about outcomes, especially in P&O for pediatrics. I want to know if a device is really working. Also, I am interested in getting the same outcome with materials and systems that cost less."*

Aside from P&O, Ms. Marzán-Harding enjoys international travel, good food, learning new subjects, and spending time with her extended family, some of whom live in the Chicago area. She and her husband include in their household a retired racing greyhound and a Hahn's macaw.

NUPOC Research Prominent at AAOP Meeting

NUPOC research was prominently represented at the **38th American Academy of Orthotists and Prosthetists (AAOP) Annual Meeting and Scientific Symposium**, on March 21-24, Atlanta GA. NUPOC presentations and authors (in alphabetical order by first author) were:

Heinemann A, Ehrlich-Jones L, Connelly L, and Fatone S (2012) *Enhancing Quality of Prosthetic and Orthotic Services with Process and Outcome Information.*

Koehler SR, Lipschutz RD, Stine RS, and Gard SA (2012) *The Effect of Transfemoral Prosthesis Alignment Perturbations on Gait.*

Komolafe OA, Caldwell R, Sun C, Chen W, Hansen AH, and Fatone S (2012) *Stress Analysis of Different Rigid Frame Designs within a Flexible Transfemoral Prosthetic Socket.*

Major MJ, Liss L, Murray T, Mangla N, Fatone S, and Roth EJ (2012) *A Pilot Study: Feasibility of Using the Berg Balance Scale in Lower Limb Prosthesis Users.*

Waldera K, Heckathorne C, Parker M, and Fatone S (2012) *Assessing the Needs of Farmers with Amputation.*

Wood S, Caldwell R, Cheng S, Chen W, Hansen A, and Fatone S (2012) *Characterizing the Performance of Prosthetic Vacuum Pumps: Bench Top Testing.*

Wood S, Caldwell R, Cheng S, Chen W, Hansen AH, and Fatone S (2012) *Characterizing the Performance of Prosthetic Vacuum Pumps: In Vivo Testing.*

Zissimopoulos A, Gard S, Stine R, and Fatone S (2012) *Effects of an Ankle-Foot Orthosis on Foot Placement Post-stroke: Balance Implications.*

Thranhardt Award Recognizes Researchers Rodriguez and Fatone

The NIDRR-funded research, *Spinal Motion during Walking in Persons with Transfemoral Amputation with and without Low Back Pain* received the Howard R. Thranhardt Lecture Award at the 38th American Academy of Orthotists and Prosthetists Annual Meeting and Scientific Symposium on March 21-24, Atlanta GA. **Stefania Fatone**, PhD, BPO(Hons), and **Azucena Rodriguez**, PhD, presented the paper. Co-authors were **Rebecca Stine**, MS, and **Steven A. Gard**, PhD.

The Thranhardt Lectures have become the most popular education programs at the Academy Annual Meeting. Thranhardt Lecture finalists are identified as the best abstracts submitted by the profession, recognizing individuals who are committed to advancing orthotic and prosthetic education and research.

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Publications

Robinson C and Fatone S. (2012) *You've Heard about Outcome Measures, So How Do You Use Them? Implementing of Clinically Relevant Outcome Measures in Orthotic Management of Stroke.* *Prosthetics and Orthotics International*, DOI: 10.1177/0309364612446650.

Meier M, Hansen A, Gard SA and McFadyen A. (2012). *Obstacle Course: Users' Maneuverability and Movement Efficiency When Using Otto Bock C-Leg, Otto Bock 3R50, and CaTech SNS Prosthetic Knee Joints.* *J Rehabil Res Dev* 49(4): 583–596.

Boutwell E, Stine R, Hansen A, Tucker K and Gard SA. (2012). *Effect of Prosthetic Gel Liner Thickness on Gait and Pressure Distribution within the Transtibial Socket.* *Journal of Rehabilitation Research & Development*, 49(2), 227-240.

Nickel EA, Hansen AH and Gard SA. (2012). *Prosthetic Ankle-Foot System that Adapts to Sloped Surfaces.* *ASME Journal of Medical Devices*, 6(1), 011006, DOI:10.1115/1.4005787.

Presentations

Lipschutz RD and Lock BA. *A Novel Research and Clinical Approach to Using Gel Liners for Collection of Surface EMG Data for*

Myoelectric Control. Presented at the Association of Children's Prosthetic-Orthotic Clinics (ACPOC) Meeting, Banff, Alberta, Canada, on April 10-14, 2012.

Lipschutz RD, Daley H, Hargrove LJ, Simon AM, and Finucane SB. *Utilizing EMG from Individuals with Lower Limb Amputations to Control Powered Prostheses.* Presented at the Association of Children's Prosthetic-Orthotic Clinics (ACPOC) Meeting, Banff, Alberta, Canada, on April 10-14, 2012.

Lipschutz RD, Hargrove LJ, Simon AM, and Finucane SB. *Classification of EMG Data from an Individual with Congenital Abnormality of the Femur: A Single Case Study.* Presented at the Association of Children's Prosthetic-Orthotic Clinics (ACPOC) Meeting, Banff, Alberta, Canada, on April 10-14, 2012.

Lipschutz RD and Soltys NT. *Symposium: Prosthetic Management of Patients with Quadrilateral Limb Loss.* Presented at the Association of Children's Prosthetic-Orthotic Clinics (ACPOC) Meeting, Banff, Alberta, Canada, on April 10-14, 2012.

Invited Speakers

Stefania Fatone, PhD, BPO(Hons), was an invited participant in

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the session *Learn Practical Outcome Measurements for Your Post CVA Patient* hosted by the Academy's Outcomes Research Committee at the 38th American Academy of Orthotists and Prosthetists Annual Meeting and Scientific Symposium, March 21-24, Atlanta GA.

Stefania Fatone, PhD, BPO(Hons), was invited to present *Subischial Prosthetic Sockets with Vacuum-Assisted Suspension for Persons with Transfemoral Amputation* at the Design of Medical Devices Conference, held in Minneapolis, MN, on April 10, 2012.

Steven A. Gard, PhD, was invited to participate in a Department of Veterans Affairs RR&D Center of Excellence Grant Proposal Review Panel held in Washington, D.C. on April 20, 2012.

Robert D. Lipschutz, CP, was co-organizer and presenter at *Advances in Rehabilitation for the Patient with a Lower Extremity Amputation* workshop, held at the Rehabilitation Institute of Chicago on May 3-5, 2012.

Craig W. Heckathorne, MSc, was invited to present *Upper-limb Prostheses: Myoelectric Control and Electric-powered Components* to Rehabilitation Engineering: Prosthetics, Orthotics, Seating & Positioning (class 4630/5630, taught by Associate Professor Barbara Silver-Thorn, Biomedical Engineering Department, Marquette University, Milwaukee, WI) on April 19, 2012.

Craig W. Heckathorne, MSc, was invited to speak about *Assessing and Responding to the Prosthetic Needs of Farmers and Ranchers* at the annual meeting of the Texas Association of Orthotics and Prosthetics (TAOP), held in San Antonio, TX, on April 12-14, 2012.

Robinson C and Albright J. Mr. Robinson was invited to present *Contemporary Pedorthics Literature Review: Evidence Based Practice* at the 38th American Academy of Orthotists and Prosthetists Annual Meeting and Scientific Symposium, Atlanta GA, on March 21-24, 2012.

Laboratory Visits

Northwestern University Prosthetics-Orthotics Center participated in Biomedical Engineering Recruit Day held at the Robert McCormick School for Engineering and Applied Sciences (Evanston) on March 29, 2012.

Northwestern University Prosthetics-Orthotics Center hosted an educational tour for geometry students from Elm Place Middle School, Highland Park, IL, on April 2, 2012. Researchers at three learning stations demonstrated the application of geometric principles in prosthetics and computer-aided design.

Northwestern University Prosthetics-Orthotics Center hosted an educational tour to display its dedicated and multi-use facilities to Professors Lane Relyea, Jeanne Dunning, and Michael Rea (NU, Weinberg College of Arts and Sciences); and to Paul Weller and Elizabeth Hitchcock (NU Facilities Management) on April 4, 2012.

Northwestern University Prosthetics-Orthotics Center hosted a site visit at the NUPOC Special Collection for Assistant Professor Christofer Stewart, MBA, (Dominican University

Graduate School of Library Information Science) on April 18, 2012. This site visit was conducted in partial fulfillment of a Practicum for Megan Carroll (Dominican University) that was jointly supervised by DU-GLIS and NU Galter Health Sciences Library staff.

Northwestern University Prosthetics-Orthotics Center participated in Northwestern University's 18th Annual Take Our Daughters and Sons to Work Day on April 26, 2012. NUPOC researchers presented interactive opportunities for participants to use prostheses and orthoses; and to learn about careers in rehabilitation engineering.

Grant Proposal Submissions

KE Gordon and **MJ Major**, *Lateral Stability of Individuals with a Transtibial Amputation*. Pilot Grant Proposal submitted to the American Orthotic and Prosthetic Association on April 30, 2012.

S Gard and **A Zissimopoulos**, *Frontal Plane Dynamic Stability in a Chronic Post-Stroke Population*. Pilot Grant Proposal submitted to the Department of Veterans Affairs on June 15, 2012.

S Gard and **MJ Major**, *Incidence and Covariates of Falls in Individuals with Upper Limb Amputations*. Pilot Grant Proposal submitted to the Department of Veterans Affairs on June 15, 2012.

S Gard, *Effect of Prosthetic Foot and Ankle Stiffness on Standing and Walking*. Grant Proposal submitted to the National Institutes of Health, June 27, 2012.

Pilot Study Funding Awarded

Deborah Gaebler-Spira, MD (Principal Investigator) and **Stefania Fatone**, PhD (Co-Investigator) Pilot Study: *Effect of Two Orthotic Approaches to Ankle Motion Restriction on Activity Level, Balance and Patient Satisfaction in Children with Cerebral Palsy*. Ultraflex Systems Inc. Restricted Grant April 1, 2012-March 31, 2013.

2012 OPERF Small Grant Award to Fatone



Stefania Fatone

Stefania Fatone, PhD, BPO(Hons), and Larissa Pavone, MD (Rehabilitation Institute of Chicago), in collaboration with Deborah Gaebler-Spira and Don McGovern, have been awarded a Small Grant Award from the Orthotic and Prosthetic Education

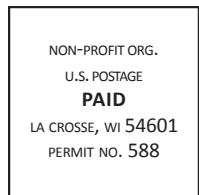
and Research Foundation (OPERF) for their study, *Improving Lower Extremity Orthotic Management of Children with Cerebral Palsy*.

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James Schweitzer: 2012 NURERC Research Scholar

R. J. Garrick, PhD



James Schweitzer
2012 NURERC Scholar

James Schweitzer is the **Northwestern University Rehabilitation Engineering Research Center (NURERC) Scholar** for 2012. Established during the 1998-2003 NIDRR-funded grant cycle, the NURERC Scholar program is modeled after the **National Institute on Disability and Rehabilitation Research (NIDRR) Scholar Program**.

The NURERC Scholar

Program actively recruits persons with disability, enables them to become involved in rehabilitation research projects at NURERC, and encourages them to pursue career work in rehabilitation research.

At NUPOC, Mr. Schweitzer is assisting with NIDRR-funded RERC research projects, concentrating on the analysis, comparison and thematic presentation of data from **2012 and 2006 NUPOC State of the Science Surveys**. He is working collaboratively with **Stefania Fatone**, PhD, BPO(Hons), and other NURERC researchers and educators, to interpret these data to help guide discussion and contribute to future P&O research.

Mr. Schweitzer will complete his Bachelor's of Science in Kinesiology (2013) at DePauw University (Greencastle, IN) and plans to pursue a Master's in Prosthetics and Orthotics (MPO). A lifelong user of lower limb prostheses, Mr. Schweitzer has both a client-user perspective and a burgeoning professional perspective on the functional design and durability of prosthetic legs and ankle-foot systems. An avid sportsman, he played baseball, football, and basketball into college; coached a high school JV summer baseball team, and taught pitching and baseball skills. Mr. Schweitzer said, *"When I played sports competitively, I used to carry two extra prosthetic feet in my backpack. I've broken almost every kind of prosthetic foot available."* In college, he chaired a committee that helped develop an on-campus philanthropy week for ALS.

A native of Loveland, CO, Mr. Schweitzer is a member of the National Society of Collegiate Scholars, a recipient of a McKee Medical Center Scholarship, and the Denver Post's Dick Connor Adversity Conquered through Excellence Award. Prior to his NURERC Scholarship, Mr. Schweitzer interned at a prosthetics facility where he shadowed prosthetists, assisted with casting and modifications, and wrote about his experience.

Learn more about these Scholar Programs at: www.nupoc.northwestern.edu/research/NIDRR_RERC/nu_erc_scholars.html.