

Scholarly Activities
Department of Physical Medicine and Rehabilitation
December 2016 – February 2017

REGULAR FACULTY

Nenad Brkic

Case Presentation: Psychosis Following an Increase in Intrathecal Baclofen.
PM&R, Vol 8, Issue 12, December 2016

Andrea Domenighetti

Attended the Mentor Development Workshop for assistant professors at the
Northwestern NUCATS Institute (Dec 8, 2016).

Mentored medical student summer intern candidates in their application for the annual
Rehabilitation Research Experience for Medical Students
(RREMS) fellowship from The Association of Academic Physiatrists (AAP) and the
Foundation for PM&R (Jan - Feb 2017).

“Cullin E3-ligase activity is required for myoblast differentiation”. Jordan Blondelle,
PhD; Paige Shapiro MSc; **Andrea A Domenighetti, PhD**; Stephan Lange, PhD.
Journal of Molecular Biology – accepted for publication

Arun Jayaraman

Mark V. Albert, Yohannes Azeze, Michael Courtois & **Arun Jayaraman** [In-lab versus at-home activity recognition in ambulatory subjects with incomplete spinal cord injury](#). *Journal of NeuroEngineering and Rehabilitation*. February 6, 2017. doi: 10.1186/s12984-017-0222-5.

NIDILRR Field-Initiated Program (Research): *“Evaluation of a robotic exoskeleton with functional electrical stimulation as an acute-phase intervention to improve neuromuscular recovery after severe SCI”*; submitted February 8, 2017

Prakash Jayabalan

Tanezumab in the Treatment of Chronic Musculoskeletal Conditions
Jayabalan P, Schnitzer TJ Expert Opin Biol Ther 2017 Feb; 17(2): 245-254

Presented: The Outcome of Concussions in Students Enrolled at Collegiate
Institution. **Jayabalan P**, Kramer N, Iwanga K, Abbott KA
Association of Academic Physiatrists Annual Meeting, Las Vegas, NV Feb 2017

Presented: Physical Activity And Worsening Of Radiographic Findings In Persons
With Or At Higher Risk For Knee Osteoarthritis , **Jayabalan P**, Rouleau G,
Kocherginsky M, Dunlop D, Lee J, Chang R, Sharma LSm Osteoarthritis Research
Society International (OARSI) World Congress, Las Vegas NV April 2017

Awards/Grants:

Richard F. Materson New Investigator Award, Foundation for PM&R ;
Young Investigator's Award American Medical Society of Sports Medicine (AMSSM);
Best Paper Award, AAP Annual Meeting, 2017

Levi Hargrove

DOD Peer Reviewed Orthopaedic Applied Research Award "*Development and Testing of an Open-Source Powered Prosthetic Leg*" submitted December 7, 2016

R. Johnson, K. Kording, **L. Hargrove**, and J. Sensinger "Adaptation to random and systematic errors: comparison of amputee and non-amputee control interfaces with varying levels of process noise", *PLoS One*, Accepted Jan 2017.

Presented "Intuitive Control of Powered Prosthetic Arm and Legs", University of Gothenburg, Feb 6, 2017, Gothenburg, Sweden.

Allen Heinemann

Discussant, Clinical and Research Applications of the NIH Toolbox Cognition Battery for Use with TBI, SCI, and Stroke Populations, Rehabilitation Psychology conference, Albuquerque, February 17, 2017.

Received the Tamara Dembo – Beatrice Wright Award Lecture, Rehabilitation Psychology conference, Albuquerque, February 19, 2017.

Manuscripts (in press):

Xiang, X., An, R., & **Heinemann, A.** (accepted). Depression and unmet needs for assistance with daily activities among community-dwelling older adults. *The Gerontologist*.

Pinto D, Danilovich M, Hansen P, Finn DJ, Chang RW, Holl JL, **Heinemann AW**, Bockenholt U. Qualitative Development of a Discrete Choice Experiment for Physical Activity Interventions to Improve Knee Osteoarthritis. *Archives Phys Med Rehabil*. In press.

Carlozzi, N., Goodnight, S., Carsaletto, K.B., Goldsmith, A., Heaton, R., Wong, K., Baum, C., Gershon, R., **Heinemann, A.W.**, & Tulsky, D. (Accepted) Validation of the NIH Toolbox (NIHTB) in individuals with neurologic disorder. *Archives of Clinical Neuropsychology*.

Nitsch, K.P., Casaletto, K.B., Carlozzi, N.E., Tulsky, D.S., **Heinemann, A.W.**, & Heaton, R.K. (Accepted) Uncorrected versus Demographically-corrected Scores on the NIH Toolbox Cognition Battery in Persons with Spinal Cord Injury and Stroke. *Rehabilitation Psychology*

Service Activities

NCMRR Advisory Committee, Rockville, MD, December 5-6, 2016

Committee of Medical Experts to Assist Social Security on Disability Issues, National Academy of Medicine, Washington DC, December 13-14, 2016

Todd Kuiken

NSF Major Research Instrumentation "Acquisition of an Advanced 3D Printer for Rehabilitation Engineering Research" submitted January 11, 2017

NIDILRR Field-Initiated Program (Development): "Development of a very low cost, lightweight prosthetic hand with excellent cosmesis"; submitted February 8, 2017

DOD CDMRP Qualitative Research Award (subcontract with Johns Hopkins) *Quality of Life Measures in Upper Extremity Transplantation, Targeted Muscle Reinnervation, and Conventional Prosthetics*, submitted December 14, 2016

Christina Marciniak

Publications

McCormick, ZL, Cushman D, Marshall B, Caldwell M, Patel J, Ghannad L, Eng C, Makovitch S, Babu A, Chu S, **Marciniak C**, Walega D, Press J, Plastaras C and Kennedy, D. "Pain Reduction and Repeat Injections After Transforaminal Epidural Injection With Particulate Versus Nonparticulate Steroid for the Treatment of Chronic Painful Lumbosacral Radiculopathy." *PM & R: the journal of injury, function, and rehabilitation* 8, no. 11 (2016): 1039-1045.

Abstracts

Gracies, Jean-Michel, Allison Brashear, **Christina Marciniak**, Robert Jech, Marta Banach, Philippe Marque, Anne-Sophie Grandoulier, Claire Vilain, and Philippe Picaut. "Duration of effect of abobotulinumtoxinA (Dysport) in adult patients with upper limb spasticity (ULS) post stroke or traumatic brain injury." *Toxicon* 123 (2016): S35.

Kaňovský, Petr, Elie P. Elovic, Michael C. Munin, Angelika Hanschmann, Irena Pulte, Michael Althaus, Reinhard Hiersemenzel, and **Christina Marciniak**. "Incobotulinumtoxina (Xeomin) sustainably improves upper limb spasticity: Pooled analysis of two phase III trials." *Toxicon* 123 (2016): S47.

Kaňovský, Petr, Allison Brashear, Elie P. Elovic, Michael C. Munin, Angelika Hanschmann, Reinhard Hiersemenzel, and **Christina Marciniak**. "Sustained incobotulinumtoxinA (Xeomin) efficacy in upper limb poststroke spasticity over 48 weeks in A phase 3, placebo-controlled study with an open-label extension." *Toxicon* 123 (2016): S47-S48.

Marciniak, Christina, Jovita Balcaitiene, Jorge Jacinto, Klemens Fheodoroff, Stephen Ashford, Pascal Maisonobe, and Lynne Turner-Stokes. "A comparison of goal selection and achievement between botulinum toxin A (BoNT-A) naïve and non-naïve patients in the upper limb international spasticity (ULIS)-II study." *Toxicon* 123 (2016): S59-S60.

Manuscripts Accepted for Publication

Maneyapanda, Mithra B., McCormick ZL, **Marciniak C**, and Reger C. "Long-term Dosing of Intrathecal Baclofen in the Treatment of Spasticity after Acquired Brain Injury." Accepted for publication *PM&R*.

Francois Bethoux,¹ Ali Fatemi,² Eileen Fowler,³ **Christina Marciniak**,⁴ Angeli Mayadev,⁵ Joel Waksman,⁶ Kathleen Zackowski,² Gustavo Suarez,⁷ Andrew R. Blight,⁷ Adrian L. Rabinowicz,⁷ and Enrique Carrazana⁷ Safety, tolerability, and sensorimotor effects of extended-release dalfampridine in adults with cerebral palsy: A pilot study. *Accepted for publication: Clinical Therapeutics.*

Debjani Mukherjee

[Prognosis Disclosure in Spinal Cord Injury.](#) Fichtenbaum J, Kirshblum S, Ruppert L, Flaum T, Spill GR, Mukherjee D. PM R. 2017 Jan;9(1):76-82. doi: 10.1016/j.pmrj.2016.11.007.

[Disability Stigma in Rehabilitation.](#) Gill CJ, Mukherjee SS, Garland-Thomson R, Mukherjee D. PM R. 2016 Oct;8(10):997-1003. doi: 10.1016/j.pmrj.2016.08.028.

Christopher Reger

Presented "Guidelines for Physician Referral", NUPOC, February 1

Presented "Polymyalgia Rheumatica: An Imitator of Degenerative Disc Disease: A Case Report"; "Femoral Mononeuropathy Mistaken for Functional Neurological Disorder: A Case Report"; "Real-Time Ultrasound Guidance of the Technically Challenging Intrathecal Baclofen Pump Refill: A Case Report and Procedure Description" – AAP Annual Meeting, Las Vegas NV, February 9-10

Elliott Rouse

NIDILRR Field-Initiated Program (Development Proposal), submitted 2-8-17

Leslie Rydberg is accepted into the FAME Medical Education Certificate Program

Zev Rymer

Mentor for TIGRR 2017 Grant-Writing Workshop in Charleston, SC, January 10-14

Co-presented with Dr. Steve Wolf "Introduction, history and importance to the profession" and "New areas to explore: How to move forward for future involvement including tactical next steps" at Frontiers in Rehabilitation Science and Technology (FiRST) Council Meeting in San Antonio, TX, February 14

Presenting "Novel strategies to enhance neuroplasticity after spinal cord injury: Applications of Acute Intermittent Hypoxia (AIH)" at Ohio University, Athens, Ohio, February 24

Presenting "Novel strategies to enhance neuroplasticity after spinal cord injury: Applications of Acute Intermittent Hypoxia (AIH)" at Department of PM&R Johns Hopkins University, February 28

Diane Dudas Sheehan

Sheehan, D.D. & Grayhack, J. (2017) Scoliosis in Pediatrics: Identification, Categories, Treatment Options and Surgical Management, Ann & Robert H. Lurie Children's of Chicago Child's Doctor: Online CME Rounds: January 2017. <https://www2.luriechildrens.org/ce/online/article.aspx?articleID=370>

Presented "Neuromuscular Scoliosis Evaluation and Management" to PM&R residents during Pediatric rotation at the RIC.

Member, Women's Faculty Organization Steering Committee

RESEARCH FACULTY

Linda Ehrlich-Jones

Presented "Motivational Interviewing: A Communication Style to Use With Patients". NUPOC, Chicago, IL, February 14, 2017

Grant submitted: NIDILRR: DRP Improving Community Living and Participation for People with Acquired Mobility Limitations Using an Adapted Evidence-Based Physical Activity Program.

Grant in development: NIH-NIAMS U01: LIFT Lupus Intervention Fatigue Trial

Member, Provost's Advisory Council on Women Faculty, subcommittee on Faculty Development and Leadership

Marylou Guihan

Sohn MW, Epstein N, Huang ES, Huo Z, Emanuele N, Stukenborg G, **Guihan M**, Li J, Budiman-Mak E. Visit-to-visit systolic blood pressure variability and microvascular complications among patients with diabetes. J Diabetes Complications. 2017 Jan;31(1):195-201.

Guihan M, Sohn MW, Bauman WA, Spungen AM, Powell-Cope GM, Thomason SS, Collins JF, Bates-Jensen BM. Difficulty in Identifying Factors Responsible for Pressure Ulcer Healing in Veterans With Spinal Cord Injury. Arch Phys Med Rehabil. 2016 Dec;97(12):2085-2094

Grants:

Department of Defense. PI: Carbone and Weaver. 9/16-10/19 Management of osteoporotic fractures in Veterans with spinal cord injury. Role: Co-investigator. VA QUERI Program project, PI: Rubin 7/15-6/17 Combating Antimicrobial Resistance through Rapid Implementation of Available Guidelines and Evidence (CARRIAGE); Evans (Hines). Role: Co-investigator

VA HSR&D. PIs: Carbone and Weaver. 1/17-1/22. Best practices for management of fractures in spinal cord injuries and disorders. Role: Co-investigator.

Proposal Submission:

VA HSR&D. Engaging Patients and Providers in Identifying and Addressing Modifiable Risk Factors to Prevent Community-Acquired Ulcers in Veterans with SCI 7/17-6/21, Role: PI

VA HSR&D. Directed evaluation of provider training modules to prevent venous thromboembolism after major cancer surgery Role: Co-investigator (PI: Bentrem)

VA HSR&D. Mentored Enhanced Implementation and Evaluation of National VA Mandates To Prevent The Spread Of C Difficile infection. 1/9/-12/21. Role: Co-Investigator (PI: Safdar)

Sherri LaVela

Service Activity:

**Appointed to PVA Education Foundation Board of Directors (3 year term: February 2017-February 2020)

Dr. Sherri LaVela has been appointed to the PVA Education Foundation Board of Directors. She was selected by the PVA Corporate Officers based on her experience and exceptional research work in the field of spinal cord injury.

Senior Consultant. Patient Experience Program of Record Enterprise. New Administration, VA Secretary for Health Initiative. (February 2017-

Publications (published; in press, under review):

LaVela SL, Kostovich C, Locatelli SM, Gosch M, Eagan A, Radonovich L. Development and initial validation of the Respirator Comfort, Wearing Experience, and Function Instrument [R-COMFI]. *Journal of Occupational and Environmental Hygiene*. 2017;14(2):135-147.

Hill JN, Balbale SN, Lones K, **LaVela SL**. Starting a new conversation: Engaging Veterans with spinal cord injury in discussions of what function means to them, the barriers/facilitators they encounter, and the adaptations they use to optimize function. *Disability and Health Journal*. 2017;10:114-122. [PMID: 27424945]

Binns-Calvey A, Malhiot A, Kostovich C, **LaVela S**, Stroupe K, Gerber B, Burkhart L, Weiner SJ, Weaver F. Validating domains of contextual factors essential to preventing contextual errors: A qualitative study. *Academic Medicine*. In Press.

Hill JN, Guihan M, Hogan TP, Smith BM, **LaVela SL**, Weaver FM, Anaya HD, Evans CT. Use of the PARIHS framework for retrospective and prospective implementation evaluations. *Worldviews on Evidence Based Nursing*. In Press.

Hill JN et al. LaVela SL. Correlates of Self-Reported Physical Function in Individuals with Spinal Cord Injuries and Disorders: Does Self-Efficacy Matter. *Spinal Cord*. In Press.

Balbale SN, Lones K, Hill JN, **LaVela SL**. Examining participation among persons with spinal cord injuries and disorders using photovoice. *The Qualitative Report*. In Press.

LaVela SL, Etingen B, Locatelli SM, Heinemann AW. What determines low satisfaction with life in persons with SCI/D? *Journal of Spinal Cord Medicine*. Under Review.

LaVela SL, Miskevics S, Weaver F. Factors associated with poor perceptions of cultural competence in health care received by individuals with neurological disorders/disabilities. *Medical Care*. Under review

LaVela SL, Balbale SN, Hill JN. Experience of using Photovoice in individuals with spinal cord injury. *Topics in SCI Rehabilitation*. Under Review

Locatelli SM, Miskevics S, Etingen B, **LaVela SL**. Effect of Environment on Participation in Spinal Cord Injuries/Disorders: The Mediating Impact of Resilience, Grief, and Self-Efficacy. *Psych Rehab*. Under review.

Invited keynote presentation:

LaVela SL. Functional needs assessment in individuals with spinal cord injuries and disorders. Disability Health and Rehabilitation Science Symposium. University of Alabama at Birmingham. January 13, 2017. Invited keynote.

Presentations:

Hill JN, Locatelli SM, Bokhour BG, Fix GM, Solomon J, Mueller N, **LaVela SL**. Three key analytic processes that emerged while using the Consolidated Framework for Implementation Research (CFIR) to evaluate broad-scale system change. 9th Annual Conference on the Science of Dissemination and Implementation. Washington, DC. December 14-15, 2016. Oral.

Hill JN, Guihan M, Hogan TP, Smith BM, **LaVela SL**, Weaver FM, Anaya HD, Evans CT. Conducting retrospective and prospective implementation evaluations using the PARIHS framework. 9th Annual Conference on the Science of Dissemination and Implementation. Washington, DC. December 14-15, 2016. Poster.

Grants Funded:

Department of Veterans Affairs, Cooperative Studies Program. *Drug-eluting stents vs. Bare metal stents in Saphenous Vein Graft Angioplasty*. PI: Liu

Grants submitted/under review:

Paralyzed Veterans of America Education Foundation. *Developing a Curriculum on Grief/Loss due to SCI for Health Providers*. PI(s): **LaVela** & Burkhart.

Department of Defense. *Perspectives and Preferences for Weight Management after Spinal Cord Injury*.

PI: **LaVela**; Co-I(s): Ehrlich-Jones, Heinemann, Applebaum, Pedersen, Pellegrini, Goldstein

National Multiple Sclerosis Foundation. *Evaluating the Use of Acute Intermittent Hypoxia to Enhance Motor Function in Persons with Multiple Sclerosis*. PI: **LaVela**; Co-I(s): Rymer, Jayaraman, Sandhu, Motl

Department of Veterans Affairs. *Evaluation of the VA Innovators Network*. PIs: **LaVela** & Lind. Co-I(s): Powell-Cope, Chavez, Weaver, Rugs

NORTHWESTERN UNIVERSITY PROSTHETICS AND ORTHOTICS CENTER

Publications:

Gard, S.A. "The Influence of Prosthetic Knee Joints on Gait." Handbook of Human Motion (2016), B. Müller, S.I. Wolf, eds, Springer International Publishing AG. (doi:10.1007/978-3-319-30808-1_75-1)

"NUPOC Donates Quadrilateral Socket Brims to O&P Schools in Ghana and the Philippines," http://www.oandp.com/articles/NEWS_2017-02-09_02.asp

Major MJ, Twiste M, Kenney LPJ, Howard D. The effects of prosthetic ankle stiffness on stability of gait in people with transtibial amputation. Journal of Rehabilitation Research & Development, 2016; 53(6): 839–852. (in print).

Presentations:

Stefania Fatone, PhD, BPO (Hons), lectured on "Hemiplegic Gait," as part of the RIC PM&R residency program PGY2 resident core lecture series on December 12, 2016.

Stefania Fatone, PhD, BPO (Hons), and Ryan Caldwell, CP/L, FAAOP, will present the NU-FlexSIV Socket Course at the 43rd Academy Annual Meeting & Scientific Symposium of the American Academy of Orthotists & Prosthetists (AAOP), March 1-4, 2017, in Chicago, IL. The course will use a combination of lectures and live demonstrations with a patient model to introduce sub-ischial socket and vacuum technology. Participants will learn the fundamentals, fabrication, and fitting of the NU-FlexSIV Socket technique.

Christopher Robinson, MS, MBA, CPO, ATC, FAAOP (D), will be a presenter in "The Future of Big Data for O&P Clinical Practice". The session examines the business of O&P with respect to data-based decision-making, the future of data-driven healthcare, and how clinicians and administrators can leverage big data to impact clinical practice and administrative decisions. Mr. Robinson will also present "Hacking Your Academy Membership", conduct sessions as an Approved Clinical Mentor, and interact with interested students during the High School Awareness Session.

Tran L, Han S, **Caldwell R**, Rogers J, Coleman T, **Fatone S** (2017) Ability of epidermal sensors to measure lower limb temperature during activity with a prosthesis simulator. 43rd Annual Meeting and Scientific Symposium of the American Academy of Orthotists and Prosthetists, March 1-4, Chicago, Illinois.

Fatone S, Tran L, Tucker K, Johnson WB, Mowrer C, **Caldwell R,** (2017) Quantification of rectifications for the Northwestern University Flexible Sub-Ischial Vacuum (NU-FlexSIV) Socket. 43rd Annual Meeting and Scientific Symposium of the American Academy of Orthotists and Prosthetists, March 1-4, Chicago, Illinois.

Major MJ, Caldwell R, Hansen A, **Fatone S** (2017) Hybrid vacuum pump for vacuum-assisted suspension in transfemoral prostheses. 43rd Annual Meeting and Scientific Symposium of the American Academy of Orthotists and Prosthetists, March 1-4, Chicago, Illinois.

Major, M. (2017). Falls in Persons with Upper-Limb Loss. 43rd Annual Meeting and Scientific Symposium of the American Academy of Orthotists and Prosthetists, March 1-4, Chicago, Illinois.

Stine R, Fatone S (2017) Capturing Quality Clinical Videos for Two-Dimensional Motion Analysis. Organized Session, 43rd Annual Meeting and Scientific Symposium of the American Academy of Orthotists and Prosthetists Annual Meeting and Scientific Symposium, March 1-4, Chicago, Illinois.

Dillon M, **Fatone S** (2017) Outcomes of Dysvascular Partial Foot Amputation. Organized Session, 43rd Annual Meeting and Scientific Symposium of the American Academy of Orthotists and Prosthetists Annual Meeting and Scientific Symposium, March 1-4, Chicago, Illinois.

Fatone S, Caldwell R (2017) NU-FlexSIV Socket Course. Special Event, 43rd Annual Meeting and Scientific Symposium of the American Academy of Orthotists and Prosthetists Annual Meeting and Scientific Symposium, March 1-4, Chicago, Illinois.

Brinkmann, J. (2017) Adherence among Users of Orthopedic Footwear and Lower-Limb Orthoses. 43rd Annual Meeting and Scientific Symposium of the American Academy of Orthotists and Prosthetists, March 1-4, Chicago, Illinois.

Duncan, J.C., Turner, K. and Tiffany Grunewald, T. (2017) Gaining a Therapist's Perspective to Address Limb Deficiency. 43rd Annual Meeting and Scientific Symposium of the American Academy of Orthotists and Prosthetists, March 1-4, Chicago, Illinois.

Wu, Y., Robinson, C. Casanova, H., Michael, J. and **Gard, S.** (2017). "Knowledge Translation of Dilatancy Socket Fabrication" Poster presentation, 43rd Academy Annual Meeting & Scientific Symposium of the American Academy of Orthotists & Prosthetists (AAOP), Chicago, IL, March 1-4, 2017.

Awards:

John T. Brinkmann, MA, CPO/L, FAAOP (D), will be recognized as an AAOP Fellow with Distinction at the 43rd Annual Meeting & Scientific Symposium of the American Academy of Orthotists & Prosthetists to be held in Chicago, IL on March 1-4, 2017.

Appointments:

Martin Buckner, CPO/L, joined the faculty of the Northwestern University Prosthetics-Orthotics Center (NUPOC) this January. Mr. Buckner will become a Lecturer in Physical and Medicine and Rehabilitation within the Feinberg School of Medicine at Northwestern. He is a well-experienced practitioner and brings clinical, instructional, and managerial skills to the NUPOC MPO program, and has nearly two decades as a P&O clinician in private practice and hospital settings.

Stefania Fatone, PhD, BPO (Hons), was appointed an Adjunct Associate Professor at La Trobe University, Melbourne, Australia for a term of 3 years (December 2016 to November 2019) in recognition of her research collaborations with La Trobe University.

Meetings:

Stefania Fatone, PhD, BPO (Hons), was onsite at La Trobe University, Melbourne, Australia, for 6 weeks to work with Michael Dillon, PhD, BPO (Hons), on collaborative research related to an AOPA-funded project, Evaluating Outcomes of Dysvascular Partial Foot and Transtibial Amputation: A Systematic Review and Development of Shared Decision Making Resources. Dr. Fatone's research time at La Trobe is funded through the La Trobe University Science Health and Engineering Research Grants: Collaboration Visits and Exchanges Scheme

Stefania Fatone, PhD, BPO (Hons) participated as a reviewer in the VA RR&D's Scientific Merit Review Board on February 28, 2017, in Washington DC.

Stefania Fatone, PhD, BPO (Hons) chaired the OPERF Research Committee review of 2017 OPERF Research Awards. **Matthew Major, PhD**, participated in the review process as a member of the Research Committee.

Laboratory Visits/Events:

David Howard, PhD, Professor of Biomedical engineering at University of Salford, Manchester, UK, was an invited presenter at NUPOC on December 13, 2016. Dr. Howard gave a presentation on "Energy Efficient Lower Limb Prostheses."

Scholars de Salud and science mentors from Instituto Health Sciences Career Academy (IHSCA) Charter High School (Chicago, IL) attended a STEM program at NUPOC on February 17, 2017. J. Chad Duncan, PhD, discussed careers in P&O and presented interactive sessions about upper and lower limb prostheses. MPO 2018 students Stephanie Mullen, Morgan Murphy, Aaron Plawecki and Emily Power participated in an informative panel discussion. This program was developed by R. J. Garrick, PhD.

J. Chad Duncan, PhD, presented information about NUPOC as a biomedical engineering laboratory at the 46th Annual Career Day for Girls sponsored by the Robert J. McCormick School of Engineering and the Society of Women Engineers (SWE) on February 25, 2017. This outreach program was organized by R. J. Garrick, PhD.

Grant Submissions:

Stefania Fatone, PhD, BPO (Hons) was a co-investigator on the NIDILRR field initiated proposal was submitted on February 8, 2017, titled “Ankle Foot Orthoses – Footwear Combinations: Biomechanics and Walking” (PI Kristie Bjornson, PhD, Seattle Children’s Research Institute).

Steven Gard, PhD, submitted an application entitled “Development and Evaluation of an Improved Prosthetic Foot/Shoe Interface” to the Field Initiated Projects Program (Research) of the National Institute on Disability, Independent Living and Rehabilitation Research (NIDILRR) on February 10, 2017.

Steven Gard, PhD, submitted a letter of intent for a Small Project in Rehabilitation Research (SPiRE) proposal entitled, “Development and Evaluation of a Shock Absorbing Prosthetic Ankle Mechanism” to the Department of Veterans Affairs, Rehabilitation Research & Development Program on February 1, 2017.

Matthew Major, PhD, was a co-investigator on a US Department of Veterans Affairs Merit Award proposal submitted in January 2017, titled “Improving Footwear Options for Veterans with Amputations” (PI: Andrew Hansen, PhD, Minneapolis VA Health Care System).

Matthew Major, PhD, was a co-investigator on a National Institutes of Health SBIR proposal submitted in January 2017, titled “Fall Prevention Smart Shoe” (PI: Jing Zhao, PhD, Agiltron Inc.).

Matthew Major, PhD, was a co-investigator on a DoD CDMRP Peer Reviewed Orthopaedic Research Program proposals submitted in December 2016, titled “Connecting Mechanical to Biomechanical Performance of Prosthetic Feet to Design Customized, Passive Devices that Provide Improved Mobility” (PI: Amos Winter, PhD, Massachusetts Institute of Technology).

Matthew Major, PhD, was a co-investigator on a DoD CDMRP Clinical & Rehabilitative Medicine Research Program proposal and a Orthotics and Prosthetics Outcomes Research Program proposal submitted in December 2016, titled “Targeting Balance Confidence as a Strategy to Increase Integration and Improve Outcomes in Users of Lower-limb Prostheses” (PI: Noah Rosenblatt, PhD, Rosalind Franklin University).

Matthew Major, PhD, was a co-investigator on a DoD CDMRP Orthotics and Prosthetics Outcomes Research Program proposal submitted in December 2016, titled “Women’s-Specific Footwear with Prosthetic Feet” (PI: Elizabeth Russell Esposito, PhD, Center for the Intrepid).

OTHER FACULTY (Adjunct, Contributed Service, Health System Clinician)

Sylvia Duraski

Presented 3 lectures entitled “Brain Injury Boot Camp” to Marianjoy Brain Injury Nursing Staff: The Importance of Monitoring Patients’ Responses to Medications:

Increased Arousal after Administration of Zolpidem in Those with Hypoxic Ischemic Encephalopathy—A Case Study published in Rehabilitation Nursing.

James Patton

Bittmann MF, Patton JL, (2016) "Forces that Supplement Visuomotor Learning: A 'Sensory Crossover' Experiment," IEEE Transactions on Neural Systems and Rehabilitation Engineering, Volume PP, Issue 99, 2016, Article number 7575641, DOI 10.1109/TNSRE.2016.26

Noohi E, Zefran M, Patton JL, (2016) "An Interaction Model for Human-Human Collaborative Object Manipulation," IEEE Transactions on Robotics (T-RO), IEEE Transactions on Robotics 32(4) 880-896. DOI: 10.1109/TRO.2016.2572698

Presented "DR: Distorting Reality to Enhance Training," MIT Lincoln Labs, Boston, MA, January, 2017

Presented "Neurorehab of stroke using tricks from motor control theory," 5th ASU Rehabilitation Robotics Workshop, February 6-7, 2017, Arizona State University, Tempe, AZ