

NUPOC NEWS

*The official newsletter of the
Northwestern University Prosthetics-Orthotics Center*



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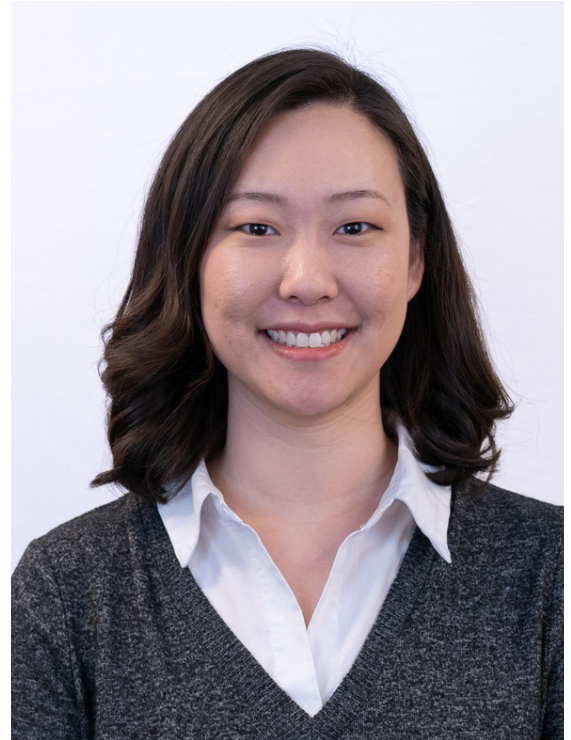
WAYS TO GIVE BACK

Congrats MPO Class of 2023!

On Friday, March 24th, NUPOC celebrated its Master's graduation ceremony for the 2023 cohort of MPO students. The in-person ceremony included guest speakers Elliot J Roth, MD, Chair, Department of Physical Medicine and Rehabilitation, as well as Marianne Greene, MD, Vice Dean for Education, Chair, Department of Medical Education. The ceremony was completed with a reception in the beautiful atrium of the Simpson Querrey where graduates and guests continued to celebrate their commencement. Congratulations to the class of 2023!

Faculty & Staff Update

We are thrilled to introduce Gloria Lee as one of our newest faculty members. Gloria became interested in the field of O&P through an info session her freshman year of college by a NUPOC graduate. It later turned out the mentor she was paired with eight years later was the one who had introduced her to the field! Gloria holds a Master of Science in Prosthetics and Orthotics from Georgia Institute of Technology. Prior to joining NUPOC, she worked in the clinical setting for eight years. Gloria worked in a variety of settings, including specialized clinics, Level 1 trauma centers, skilled nursing facilities and rehabilitation hospitals. Gloria was a Teaching Assistant in college, taught high school mathematics with Teach for America before entering the field and continued to incorporate teaching while in clinical practice, organizing CEU sessions for therapists and teaching medical residents and physicians. Welcome, Gloria!



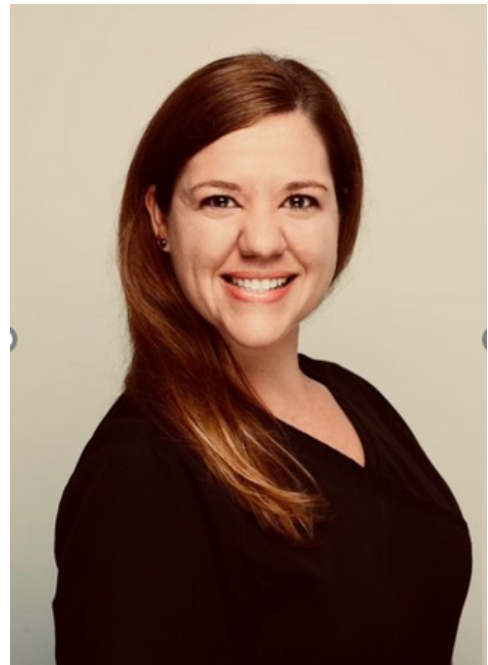
PICTURED: GLORIA LEE, MSPO, CPO

We are also excited to welcome David Speers as one of our latest faculty members. David is an American Board Certified and Illinois Licensed Orthotist and Prosthetist. He worked in clinical practice for 25 years at the University of Iowa, Scheck and Siress and Hanger Clinic in Schaumburg, IL. David is a member of the international Scoliosis group, SOSORT, and has presented his research for members of SOSORT in San Francisco, CA in 2019, Katowice, Poland in 2015, Chicago in 2013 and Milan, Italy in 2012. In 2015, David was invited to speak at a Scoliosis Symposium at the University of Iowa with the lead authors of the BRAIST study – Dr. Stuart Weinstein, MD and Lori Dolan PhD. The BRAIST study is groundbreaking research that states that scoliosis bracing is effective and prevents children from needing surgery. Welcome, David!



PICTURED: DAVID SPEERS, CPO/L

Amy Lawrence began her career in the healthcare field when she earned an associates degree as a Physical Therapist Assistant in Birmingham, AL. She worked for several years in a variety of healthcare settings, then decided to return to school for Prosthetics and Orthotics. Amy was part of the second cohort at the University of Hartford to graduate from the Master's of Science program for Prosthetics & Orthotics in 2014. Amy completed an 18-month residency in Birmingham, AL. After finalizing her dual certification as a CPO, she worked in Florida, Tennessee and Texas before joining the NUPOC team in 2023. Welcome, Amy!



PICTURED: AMY LAWRENCE, CPO

NUPOC is excited to welcome Gregory Hartline to our staff as well! Greg graduated with his BA from NorthPark University. Greg has 40 years of experience within the field, and has been able to witness the evolution of it both as a clinician and technician. Being able to witness the transformational impact prosthetic devices can have on individuals' lives has been incredibly rewarding for Greg. By customizing prosthetics and orthotics to meet the unique needs of each patient, he has been able to restore mobility, independence, and confidence, helping individuals embrace their full potential. Greg also recognizes the importance of balancing personal and professional life. He enjoys spending much of his time with his daughter, Madeline, and the rest of his family.



PICTURED: GREGORY HARTLINE

Student Achievements

NUPOC is proud to share some of the many achievements and awards our students have earned this past year. We take pride in our renowned educational program, and are consistently amazed by the determination, curiosity, kindness, and skill demonstrated by our MPO students.

Leslie Martinez was announced as the 2023 Ken Harris Diversity, Equity, and Inclusion Scholarship recipient. This scholarship was established to honor the 30+ year career, service, and dedication of Ken Harris, and to provide support for students who are from marginalized backgrounds who are committed to advancing diversity, equity, and inclusion. The anonymous donor hopes such scholarship will be financially added to by others who seek to honor Ken Harris and provide support for students who are from marginalized backgrounds. We thank Leslie for her tremendous contribution to diversity, equity, and inclusion within Northwestern University Feinberg School of Medicine.



PICTURED: LESLIE MARTINEZ, MPO'23

We would also like to congratulate Taylor Ferris on being selected as the first-ever Damon Johncour Scholarship Awardee! This award was generously funded by the Johncour family and was established to honor the legacy of Donald Damon Johncour (March 29, 1966- February 23, 2018). Prior to attending Northwestern, Taylor was a certified fitter of orthotics (CFO) and certified fitter of mastectomy (CFm). Taylor is eager to start her residency and continue down the path of becoming a certified prosthetist-orthotist, and we can't wait to see what she will accomplish along the way!



PICTURED: TAYLOR FERRIS, MPO'24

During the 2023 graduation ceremony, several students were recognized for awards they earned throughout the year. William Harris, Kristen John, and Courtney Clapka received the 2023 Tamarack awards. This award was established in 2014 by the generosity of J. Martin Carlson, CPO, FAAOP, owner and chief engineer of Tamarack Habilitation Technologies (Blaine, MN). The Tamarack Award is given to students who demonstrate excellence in orthotics and who consistently prove their dedication to the field.



PICTURED: WILLIAM HARRIS (LEFT) KRISTEN JOHN, COURTNEY CLAPKA (RIGHT)



PICTURED: CHRISTOPHER MCCLURKIN, MPO'24

We are proud to share that the 2022 Hanger Foundation Diversity Scholarship has been awarded to one of our MPO'24 students, Christopher McClurkin! In January 2021, the Hanger Foundation launched the Hanger Foundation Diversity Scholarship program as part of its commitment to diversity and inclusion in the orthotics and prosthetics (O&P) profession. The new program diversifies the Foundation's offerings, while still committing to advance communities by supporting charitable organizations that help people with limb loss, limb difference and other physical challenges.

Ongoing Research

Dr. Steven Gard recently received a new VA grant entitled, "Effect of Prosthetic Foot-Ankle Stiffness on Standing and Walking Performance in Transfemoral Prosthesis Users." The anatomical foot and ankle joint provide important functions during gait, so fitting lower-limb prosthesis users with prosthetic components that replicate these functions is rational and desirable. NUPOC investigators previously demonstrated that prosthetic ankle joints improve walking performance in groups of individuals with transtibial (below-knee) amputation and transfemoral (above-knee) amputation. However, it is not known how to best combine and tune prosthetic foot and ankle stiffness to optimize a prosthesis user's walking and standing performance simultaneously. Currently, there is not a clear clinical consensus on the precise prescription criteria for the various prosthetic foot-ankle mechanisms in relation to the functional abilities of individuals with lower limb amputation.



THE STIFFNESS OF THE ANKLE BUMPER AND FOOT KEEL IN THE COLLEGE PARK VENTURE FOOT WILL BE VARIED FOR THIS RESEARCH STUDY.

The development of evidence-based guidelines will make health care more consistent, efficient, and diminish the gap between how clinicians practice and what scientific data supports.

Limitations in current technology and the inability of the prosthesis user to make fine control adjustments with their prosthetic foot and ankle challenge stable upright balance, placing them at greater risk of stumbling and falling. In this proposed study, Dr. Gard and his colleagues plan to systematically vary the stiffness of the prosthetic foot and ankle joint combination in the College Park Venture Foot to determine how standing and walking performance is affected in transfemoral prosthesis users, which is the first study of this type. The results from this investigation will be used to establish prescription guidelines for prosthetists to consider when fitting prosthetic ankle units with prosthetic feet for transfemoral prosthesis users.

Furthermore, these data could be used in the future to develop a novel prosthetic foot-ankle component having a stiffness that appropriately adapts to different activities or terrains.

Another principal investigator here at NUPOC, Rebecca Stine, is working on a research project titled "Does Transfemoral Prosthetic Socket Design and Alignment Influence Low Back Pain? A Comparison Between Ischial-Containment and Sub-Ischial Sockets." This project is funded by the VA Rehabilitation Research and Development SPiRE Program.

Her research aims to understand the relationship between trunk and pelvic positioning and motions during standing and walking in unilateral, transfemoral prosthesis users to determine if these users are at an increased risk of developing low back pain (LBP) due to socket design and prosthetic alignment. Longterm transfemoral (i.e., above-knee) prosthesis users are at an increased risk of developing secondary musculoskeletal conditions compared to the general able-bodied population.

Significant resources have been devoted to the immediate rehabilitation needs of persons undergoing lower-limb amputation, but there needs to be greater consideration for the early identification and modification of potential risk factors responsible for long-term development of secondary health conditions such as LBP.

The etiology for the development of LBP is not entirely known or understood, but in persons with unilateral amputations it is believed to relate to the asymmetries and gait deviations that are typically demonstrated and required to walk with a prosthesis. Previous studies have primarily focused on the lumbar spine and pelvis, while neglecting trunk posture and spinal segmental motions. There have been limited studies to date that have investigated or determined if transfemoral prosthesis users adopt standing and gait postures and pelvic rotation patterns that put them at increased risk of developing or worsening LBP. Therefore, the purpose of this study is to investigate and compare the effects of the standard ischial containment (IC) socket to a sub-ischial (SI) socket design on the trunk posture and pelvic motions of transfemoral prosthesis users.

Understanding spinal motion and compensations will improve our comprehension of the factors contributing to LBP and possibly lead to the development of new prosthetic and therapeutic interventions designed to prevent or alleviate LBP.

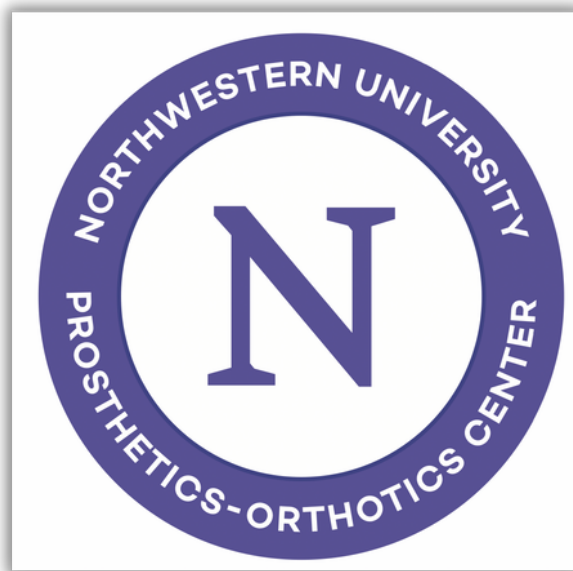
Ways to Give Back

We are excited to inform you that we will be welcoming our newest cohort of MPO students to the Northwestern University Prosthetics-Orthotics Center (NUPOC) this summer. These new students will be given a white coat to symbolize the journey of becoming a certified prosthetist-orthotist when they begin their onsite studies in January.

This fall season, we welcome you to partake in this celebrated moment by sponsoring a white coat for our incoming class. Your participation will showcase the commitment, generosity and collegiality demonstrated by our amazing network. Further details on how to sponsor your white coat will be made available in October.

For other ways to show your support, you may [Contribute online](#), or contact FSM Development by calling (T: 312-503-2706). Your gift can help support emerging researchers, P&O clinicians, students, and programs that will improve the lives of people who live with amputation or other physical impairment.

Your generosity is **greatly** appreciated!



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