



NUPOC NEWS

Delivering excellence in Prosthetics-Orthotics education and research.

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Department of Physical Medicine & Rehabilitation, Feinberg School of Medicine, Northwestern University

NUPOC Directors **Steven A. Gard**, PhD, and **J. Chad Duncan**, PhD, CPO, are pleased to present this issue of NUPOC News. We invite current and prospective students, alumni, patient models, clinical and research collaborators, consumers of prosthetic and orthotic (P&O) devices, and all who are interested in prosthetics and orthotics to learn about our people, programs and product. Invite your friends and colleagues to [subscribe to NUPOC News](#).

NUPOC Instructors Embrace Life-Long Learning

The NUPOC Master of Prosthetics and Orthotics (MPO) degree program challenges instructors and students alike to perform at the highest level. Read about three of our MPO instructors who teach classes at NUPOC and seamlessly transition into students who pursue advanced education and degree programs. Their new knowledge further enriches a holistic approach to teaching and mentoring our students. Learn about their recent achievements.

Meagan Clark

Three months before she joined the NUPOC teaching faculty in June 2019, **Meagan Clark-Ingimundarson**, EdD, MLitt, MA, CPO, defended her doctoral dissertation in Educational Leadership at George Fox University (Portland, OR). Her research explored differences in mental health between undergraduate and graduate students.

Educational Leadership has direct application to the NUPOC MPO program; but, Dr. Clark's interests and commitment to learning extend far beyond P&O. Dr. Clark shares her story below.

“As I walked out of my defense, I remember thinking that I was happy to have completed my doctorate; but, I wanted to continue structured



Meagan Clark, EdD, MLitt, MA, CPO

educational training. Two months after my defense, I applied for and was accepted into the 12-month Advanced Diploma in Local English History at the University of Oxford (Oxford, England). My research at

Oxford focused on the Poor Law Amendment Act 1834 in England and its impact upon court proceedings and trial verdicts.

People often remark that I am a ‘professional student’. While this may be true, I thoroughly enjoy education from all roles, including educator, student, and researcher. I face the unique challenge of transitioning from an educator during the day to a student during evenings and weekends. My daily experience in educator and student roles helps me to critique my work from a student’s viewpoint as I develop course content or implement new educational approaches.

Students and educators ask why I choose to study history while teaching P&O. My response is that with-

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out understanding the history of our field, we cannot appreciate current advances. Our state-of-the-art P&O devices are founded in successive developments initiated by our forebears. Knowing our past enables us to recognize the process and people that produced the technology that we use today.

If you are curious to know whether I will undertake additional degrees, the answer is yes. In 2020 I began a Master of Studies in Local History at the University of Cambridge (Cambridge, England), where I am currently researching the York Retreat, a charitable, Quaker-founded asylum opened in 1796, and its impact upon mental health reform in the United Kingdom and, ultimately, in the United States. It is a 2-year program that requires independent research that culminates in an original thesis.

I hope that my pursuit of knowledge will also encourage our students and alumni to continue learning and growing, even after they graduate from our program.”

Michael Cavanaugh

Michael Cavanaugh, MS, CPO, has completed a Master of Science degree in Health Informatics (MHI) at Northwestern University. Mr. Cavanaugh conducted projects that addressed: 1) Leveraging Data Analytics to Improve Care Coordination; 2) Consumer eHealth Trends; 3) Improving Patient Experience through Implementation of Smart Rooms; and 4) Family Practice Electronic Health Records (EHR) within MLC Healthcare. He integrated these emphases in his Cap-



Michael Cavanaugh, MS, CPO

stone, *Clinical Implementation of Telemedicine - Applications in a Prosthetics-Orthotics Clinic.*

Mr. Cavanaugh’s capstone developed a clinical implementation strategy to ensure consistent, appropriate, and ethical use of eConsults by a P&O provider in response to the COVID-19 pandemic. He identified practice areas that are conducive to telehealth and eConsult visits; and within each area defined sub-tasks to be completed. Based on peer reviewed literature, Cavanaugh developed recommendations for patient eligibility, education of clinical staff, and the management of the practice during its transition to eConsult.

Mr. Cavanaugh talked about his experience working simultaneously in the demanding roles as an instructor and academic mentor in the NUPOC MPO program and also as a student in a graduate degree program. *“I truly enjoyed the MHI program. In addition to the degree requirements, I learned a variety of online teaching strategies and activities that have helped me as an educator. The program also helped me see the online educational process from a student’s perspective. These insights help improve the way I organize course shells and my*

communication methods with our students.”

Mr. Cavanaugh plans to apply his MS training at NUPOC and in the broader P&O profession. *“Technology is playing an increasingly larger role in healthcare, enabling remote appointments via eConsults, direct lines of patient-provider communication, access to information via patient portals, and providing healthcare for patients. I’m excited to introduce our students to new technologies that will affect provider-patient interactions with the healthcare system and explore what that might mean for the P&O profession.”*

John Brinkmann



John Brinkmann, MA, CPO, FAAOP(D)

In 2020, **John Brinkmann, MA, CPO, FAAOP(D),** completed a Medical Educator Certificate at the Feinberg Academy of Medical Educators (FAME). Over a 4 year duration, the FAME program provides mentorship to develop educator skills, recognize teaching excellence, offer new, cross-disciplinary knowledge, and enhance opportu-

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nities for collegial networking and collaboration.

Mr. Brinkmann participated in workshops, lectures and classroom resources to focus on contemporary principles of curriculum design, meaningful feedback, and the measurement of learning outcomes. To fulfill assessment of a clinical task in prosthetic education, Mr. Brinkmann examined the Delphi process, an iterative approach designed to identify consensus about a topic. He presented *Assessment Criteria for PTB Impressions – A Delphi*

Study to his MEC mentors and cohort. Mr. Brinkmann and his co-authors, **Keirra Falbo**, CPO, a 2018 NUPOC MPO graduate, and Sara Morgan, PhD, CPO, Clinical Scientist with Gillette Children's Specialty Healthcare in Minneapolis, MN, have submitted an article for publication in a peer-reviewed journal.

"I've appreciated the strong emphasis that the FAME faculty place on the interpersonal aspects of education and working together as a team. This process provided insight into how our teaching at NUPOC could be improved in specific ways."

"Working with Keirra Falbo,

CPO, and Sara Morgan, PhD, CPO, reinforced the importance of collaboration in education and research. This project was a success because of their contributions."

Mr. Brinkmann is eager to augment didactic methodology at NUPOC. *"The NUPOC faculty constantly discuss how to improve our teaching. Each element of the Medical Educator Certificate program helped to further my professional development and supports our education objectives within NUPOC and the Department of Physical Medicine and Rehabilitation."*

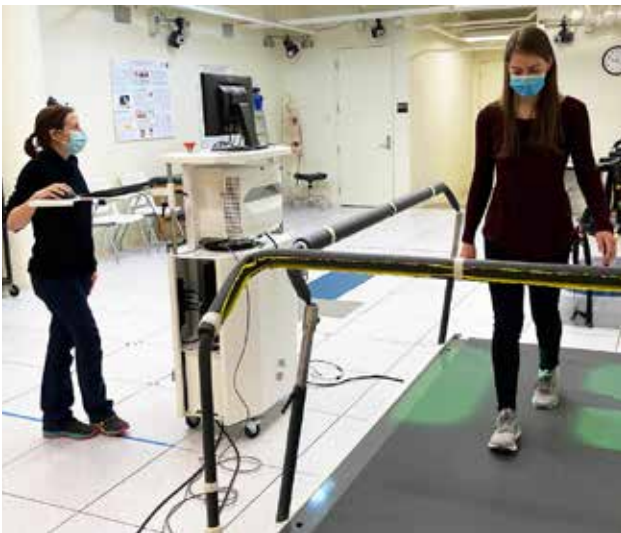
José Blankenship



Others at NUPOC also share a passion for learning. In 2016, **José Blankenship** joined NUPOC in the pivotal position of Storeroom Manager. He strategically orders, inventories and organizes essential fabrication supplies, while also pursuing a degree in Information Systems. Transfer of economics and journalism credits allows him to complete his degree in less than 2 years. Mr. Blankenship expresses his enthusiasm for his program of study.

"I'm so excited to be in the Information Systems program and I really enjoy the coursework. Since September 2020, I have been juggling full time work and going to school in the evening. It has been challenging, but very rewarding. I appreciate the encouragement and support from everyone at NUPOC. I believe that continuing my education will help me find new ways to make my work at NUPOC even better."

NUPOC STEM Education Outreach



Jenny Kent, PhD, introduces Madeleine Drefke to issues in gait and motion analysis.

Educational outreach programs about biomedical engineering and P&O are an important part of NUPOC's commitment to inform young people who are interested in STEM careers.

In March 2021, NUPOC hosted high school senior Madeleine Drefke (National Cathedral School, Washington, D.C.) for a 2-week educational visit. Ms. Drefke won a competitive STEM fellowship and selected NUPOC to fulfill the requirement that she visit a biomedical engineering lab. Although Northwestern University suspended high school group visits to campus through 2021, Ms. Drefke's visit was confirmed prior to the pandemic clo-

sure, conducted with University permission, and in full compliance with COVID guidelines.

NUPOC used in-person and distance interactions to present stimulating and informative sessions to Ms. Drefke. Presenters were **Matthew Major**, PhD; **Julia Quinlan**, PhD; **Jeff Linton**, CPO; **Steven Gard**, PhD; **Miguel Vaca Moran**, MS; **Stefania Fatone**, PhD; **Liridona Ashiku**, BS; **Ryan Caldwell**, CP, **Jenny Kent**, PhD; and MPO 2021 students **Becca Torres**, BS, and **Andrew Melón**, BS.

R. J. Garrick, PhD, developed this STEM education program.

AAOP Honors NUPOC Faculty

The American Academy of Orthotists and Prosthetists (AAOP) honored three exceptional NUPOC faculty for their contributions to P&O. Join us in congratulating our awardees — Wendy Beattie, John Brinkmann and Matthew Major.

Wendy Beattie

Titus-Ferguson Lifetime Achievement Award



Wendy Beattie, CPO, FAAOP, was honored with the 2021 [Titus-Ferguson Lifetime Achievement Award](#). Throughout her distinguished career, Beattie has demonstrated sustained leadership at the Academy and advanced the training and clinical delivery standards of the P&O profession.

Ms. Beattie led the AAOP as president (2007-2008) and served on the Academy Board of Directors for seven years. A champion of research excellence, she was instrumental in developing one of the first P&O State of the Science Conferences. She also promoted the Women in O&P project that heralded the widespread admission of women into the profession.

In 2014, as program director and clinical coordinator of the Master of Science in Orthotics & Prosthetics program at Eastern Michigan University, she rebuilt the program

in compliance with National Commission on Orthotics and Prosthetics Education (NCOPE) accreditation standards. In 2020, Beattie joined the faculty at Northwestern University where she is training a new generation of P&O clinicians.

Read more about [Wendy Beattie](#) and what distinguishes her as a life-long innovator and contributor to P&O.

John Brinkmann

Outstanding Educator Award



John Brinkmann, CPO, FAAOP(D), was honored with the 2021 [Outstanding Educator Award](#).

Mr. Brinkmann is a dedicated and enthusiastic educator who trains nascent P&O clinicians who are pursuing a Master of Prosthetics and Orthotics (MPO) degree at NUPOC, a NCOPE accredited program. He demonstrates proven didactic and laboratory skills that instill positive

learning in his students.

He is recognized by the AAOP as a Fellow with Distinction.

Matthew Major

Research Award



Matthew Major, PhD, was honored with the 2021 [Research Award](#).

Dr. Major is a VA Research Health Scientist and Northwestern University faculty member with more than 50 peer-reviewed manuscripts that contribute new knowledge to P&O. His work seeks to evaluate and integrate relationships between P&O device properties and user performance, focusing on sensory-motor mechanisms that underlie postural control in individuals who have neuromuscular or musculoskeletal pathology and use assistive devices.

He has served the AAOP as a member of the *Journal of Prosthetics and Orthotics* Editorial Board and the Outcomes Research Committee.

NUPOC MPO Classes Are Fully Subscribed

Students in the MPO Class of 2022 have completed the halfway mark in their year-long, on site practicum. The incoming MPO Class of 2023 is fully subscribed with 48 students, who will remotely complete their required didactic coursework before coming to campus in January 2022 for their on site practicum.



Research Matters

New Knowledge to Improve Clinical Care

Matthew Major, PhD, and his collaborators offer 3 open access research articles that examine falls among individuals who wear upper- or lower-limb prostheses.

1. Armstrong K, Brinkmann JT, Stine R, Gard SA, Major MJ. [Do Upper Limb Loss and Prosthesis Use Affect Lower Limb Gait Dynamics?](#) J Prosthet Orthot. 2019 Jul 22; Online first:10.1097/JPO.0000000000000333. doi: 10.1097/JPO.0000000000000333. PMID: 33510563; PMCID: PMC7839067.
2. Kim J, Major MJ, Hafner B, Sawers A. [Frequency and Circumstances of Falls Reported by Ambulatory Unilateral Lower Limb Prosthesis Users: A Secondary Analysis.](#) PMR. 2019 Apr;11(4):344-353. doi: 10.1016/j.pmrj.2018.08.385. Epub 2019 Jan 15. PMID: 30195705; PMCID: PMC6405319.
3. Major MJ. [Fall Prevalence and Contributors to the Likelihood of Falling in Persons with Upper Limb Loss.](#) Phys Ther. 2019 Apr 1;99(4):377-387. doi: 10.1093/ptj/pzy156. PMID: 30561742; PMCID: PMC6684228.

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Donor support is essential to our continued success. Your gift can help support emerging researchers, P&O clinicians, and programs that will improve the lives of people who live with amputation or other physical impairments.

Contribute [online](#). Or contact FSM Development Officer [Jordan Sund](#) (T: 312-503-2706). NUPOC appreciates your investment in our future!