

# PROFICIO

PHYSICAL THERAPY AND REHABILITATION SCIENCE

2025



*Movement. Function. Wellness.*



UNIVERSITY of MARYLAND  
SCHOOL OF MEDICINE

DEPARTMENT OF PHYSICAL THERAPY  
AND REHABILITATION SCIENCE



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# Letter from the Chair

Welcome to the latest edition of Proficio, the official magazine of the Department of Physical Therapy and Rehabilitation Science (PTRS) at the University of Maryland School of Medicine (UMSOM). We are thrilled to have you as part of our community and are excited to share our recent accomplishments as PTRS continues to excel in education, research, clinical practice and service.

PTRS' nationally recognized faculty are committed to advancing the field of physical therapy and rehabilitation science through exceptional work in our academic programs, innovative research, community engagement and clinical practice. Over 20 core faculty members and 40 adjunct faculty share their contemporary expertise with students using the latest technologies and multimodal teaching methods. The faculty are well-versed in their specialty and provide authentic learning experiences for students to gain a deeper understanding of the curriculum content. Our faculty also serve as passionate mentors to the next generation of PhD students. PTRS faculty are at the forefront of knowledge and innovation which provides enhanced care in the diagnosis, treatment and rehabilitation of patients of all ages.

As Chair, I am committed to supporting academic and professional growth. The strategic mission and vision of PTRS are directly aligned with the core values of the UMSOM. We pride ourselves on fostering a supportive and inclusive environment where everyone can thrive. I am honored to serve the Department of Physical Therapy and Rehabilitation Science and I look forward to many productive and enriching years ahead.

In this issue, we highlight our ongoing education, research, community engagement and global health initiatives. In addition we announce the launch of a new Center for Disability Justice and feature a special interview with Caitlin Thomas, with whom I had the great pleasure of working with this year as part of an ongoing research study.

I hope you enjoy the publication.

Sincerely,

**Victoria Marchese, PhD, PT, FAPTA**

Jane Kroh Satterfield Endowed Professor of Physical Therapy and Rehabilitation Science,  
Chair Department of Physical Therapy and Rehabilitation Science, University of Maryland School of Medicine



*Victoria Marchese, PhD, PT, FAPTA*

# Strategic Vision

Established in 1956, the University of Maryland School of Medicine, Department of Physical Therapy and Rehabilitation Science (UMSOM PTRS) has a long history of providing outstanding education, producing high quality research and contributing extensively to service.

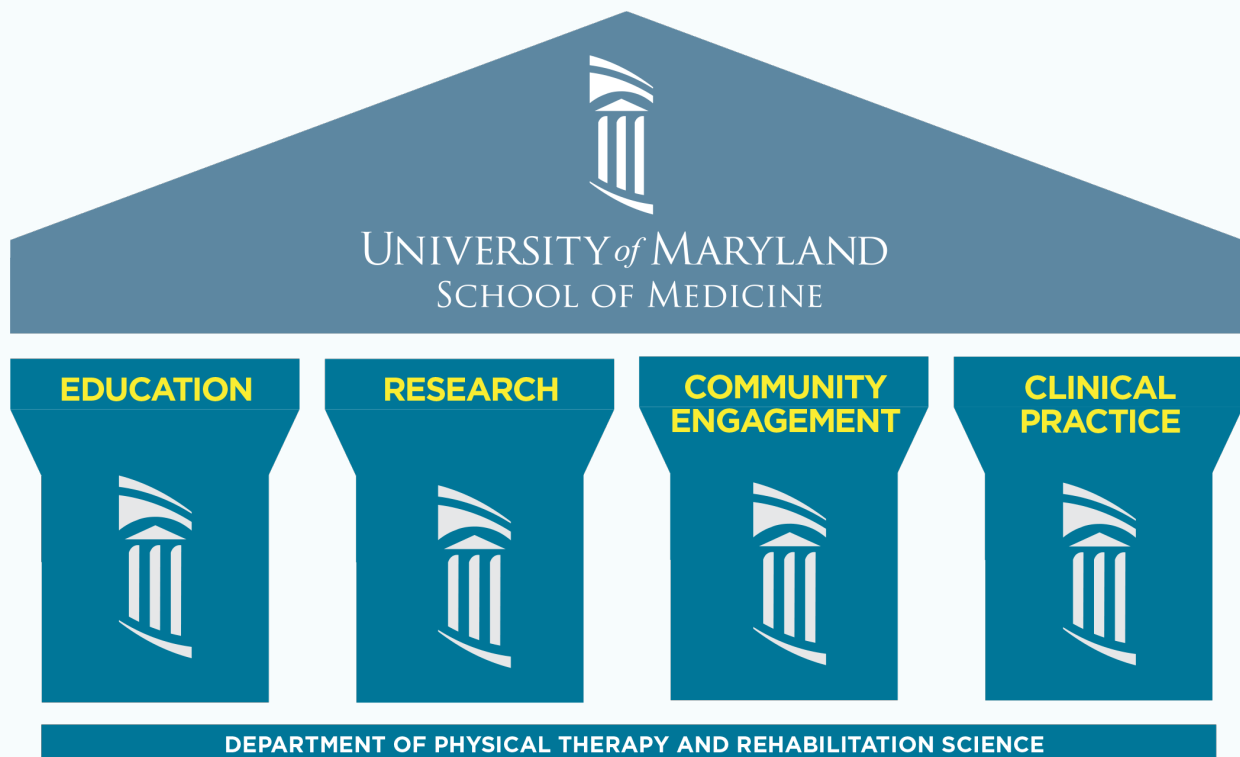
## Mission

PTRS advocates for, and advances, societal health by optimizing human movement, function and wellness through excellence in education, research, clinical practice and service.

## Vision

By integrating education, research, clinical practice and service, PTRS excels in:

- Graduating socially responsible professionals who deliver excellent patient-centered care using critical thinking, evidence-based practice and technology.
- Providing new knowledge and evidence that enhance rehabilitation science and support clinical practice through expertise, innovation and technology.
- Guiding, promoting and leading the physical therapy profession and rehabilitation sciences through engagement with scientific and professional organizations in local, national and international communities.





# Education

## Doctor of Physical Therapy (DPT)

The 2 year, 7 month Doctor of Physical Therapy curriculum is designed to prepare students to function as independent, entry-level practitioners in a diverse global society. The curriculum is organized in a unique block design to integrate foundational and clinical science content across the lifespan.

- Multi-modal instructional methods include psychomotor laboratory activities, small group peer learning, simulations, video movement analysis, audience response systems and patient educator interactions.
- We promote health and wellness nationally and internationally through community engagement and patient advocacy.

## Clinical Education

The first integrated clinical experience takes place during the beginning of the second year, providing an opportunity for students to interact with patients and the clinical environment early in the program.

- Clinical education experience facilitates knowledge application and connection-building with our exceptional clinical partners.



## Dual Degrees BS/DPT, DPT/MPH, DPT/PhD

Doctor of Physical Therapy (DPT) students are eligible to apply for one of the dual-degree options: DPT and Master of Public Health (DPT/MPH) and DPT and Doctor of Philosophy in Physical Rehabilitation Science (DPT/PhD).

Kinesiology students at the University of Maryland School of Public Health now have an opportunity to enter the Bachelor of Science and DPT (BS/DPT) dual degree, saving them time and money.

# Education

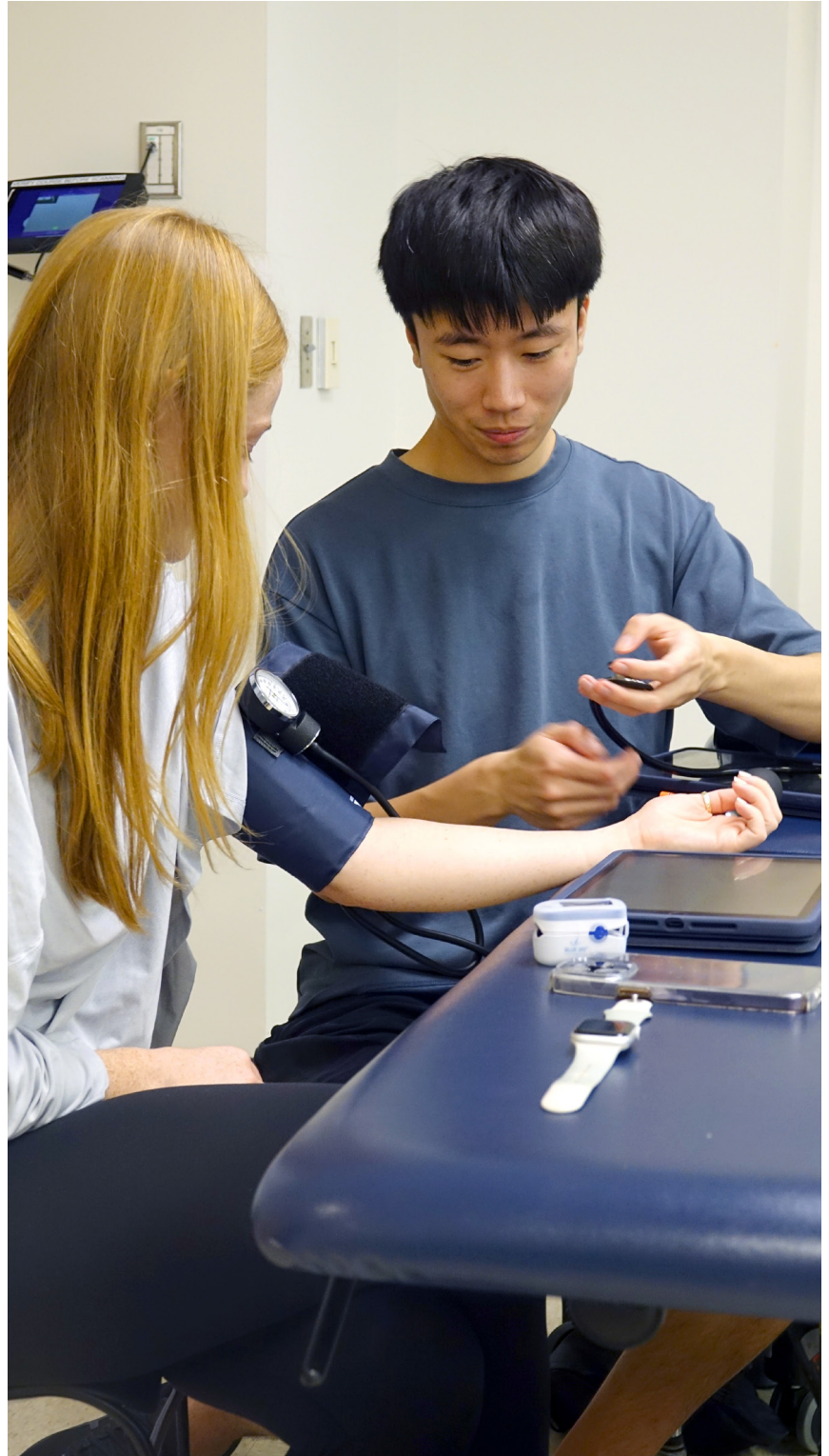
## Doctor of Philosophy in Physical Rehabilitation Science (PhD)

The PhD Program in Physical Rehabilitation Science equips students to become independent researchers dedicated to advancing the field of rehabilitation science.

The program promotes a collaborative environment that engages various departments within the School of Medicine and the wider University System of Maryland. This includes kinesiology, epidemiology, biomedical engineering, psychology, radiology, gerontology, orthopedics, and neurology, as well as clinical settings through the University of Maryland Medical System.

Students engage in innovative research that combines advanced research design with diverse methodological approaches. The focus is on cultivating a comprehensive skill set leading to a deep understanding of rehabilitation science, including factors related to human movement and access to effective rehabilitation services throughout the lifespan.

Each doctoral candidate works closely with a faculty advisor, benefiting from ongoing mentorship in research, coursework, and professional growth, ensuring a supportive and enriching experience throughout their PhD journey.





# Education

## Post Professional

Our post-professional clinical training programs are dedicated to advancing the education of physical therapists across Maryland to develop leaders in clinical practice, research, and service. We actively engage in collaborative partnerships with the University of Maryland School of Medicine, the University of Maryland Rehabilitation Network and external health institutions throughout the state. Together, we strive to improve healthcare for all Marylanders.

## Residency

- University of Maryland Rehabilitation Network
  - Neurologic Physical Therapy Residency
  - Orthopedic Physical Therapy Residency
- Kennedy Krieger Institute Pediatric Physical Therapy Residency
- Sinai Rehabilitation Center and University of Maryland Neurologic Physical Therapy Residency (Sinai)

## Fellowship

- University of Maryland School of Medicine Fellowship in Orthopaedic Manual Physical Therapy



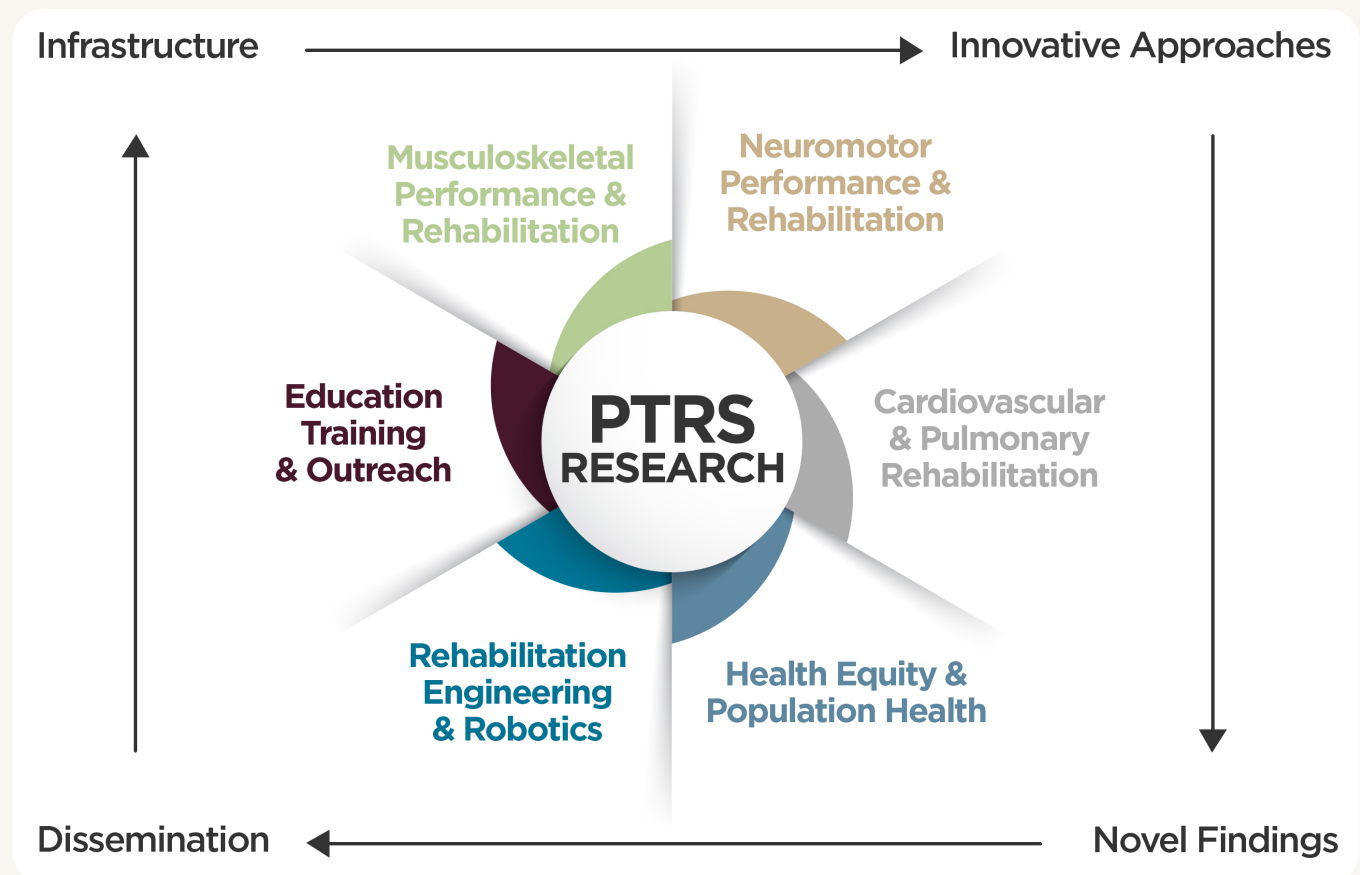
## Continuing Education

Continuing education is an essential step for personal and professional growth. Our continuing education seminars foster new skills, technologies and industry trends to enhance career prospects and increase earning potential.

# Research

## Areas of Research

The University of Maryland School of Medicine Department of Physical Therapy and Rehabilitation Science (PTRS) is dedicated to improving quality of life and health care through rehabilitation research. With our exceptional faculty, resources, leadership and collaborations, PTRS drives innovative rehabilitation research.

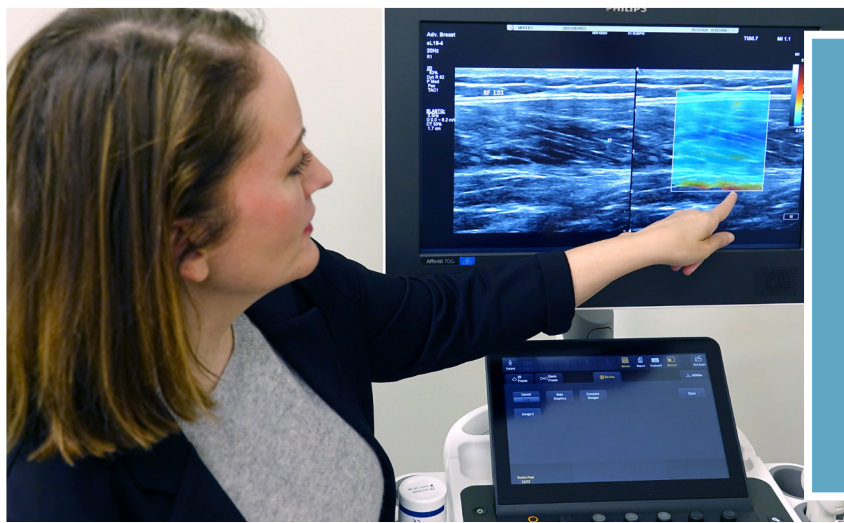




# Research

## Musculoskeletal Performance and Rehabilitation

Investigating pathological musculoskeletal conditions, injuries, and the effects of intervention training in people of various ages including older adults with disability and children with sarcoma.



“Research at PTRS is exciting. We are working to develop innovative solutions and unlock new and meaningful treatments to enhance the lives of those we serve.”

**Odessa Addison, DPT, PhD,  
Associate Professor**

“At PTRS we are advancing the field of Neuromechanics by utilizing the newest techniques and developing strong methodologies.”

**Marcel Bahia Lanza, PhD,  
Assistant Professor**



# Research

## Health Equity and Population Health

Investigating how rehabilitation is utilized across the lifespan, disparities in use of rehabilitation services, and individual and environmental factors associated with outcomes for those receiving physical therapy interventions. The overall goal of this research is to communicate the value of physical therapy services to patients, providers, and policymakers.



The Enhancing Rehabilitation to Improve Community Health (ENRICH) lab is working to improve community mobility and social connectedness among older adults in Baltimore living with a disability.

**Dr. Jason Falvey, PT, DPT, PhD,  
Assistant Professor**

“Rehabilitation enhances quality of life; however, there are variables that impact access and utilization. My research focuses on exploring the development of equitable care models.”

**Rachel Reoli, PT, DPT, NCS, PhD,  
Assistant Professor**





# Research

## Rehabilitation Engineering and Robotics

Investigating novel rehabilitation engineering approaches to improve assessment, outcomes, and translation to clinical practice. We pursue active movement treatments and outcomes of sensory-motor impairments in stroke survivors. Facilitating motor recovery in acute in-patients post stroke with severe impairment is a direct focus.

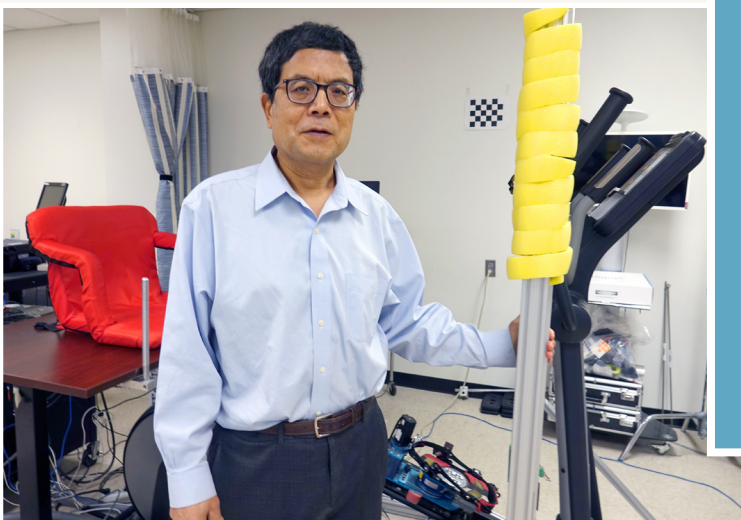
The “Modified Hand of Hope” provides hand rehabilitation for stroke survivors.

**PTRS Robotics Laboratory**



Dr. Zhang’s research interests include development of intelligent rehabilitation protocols with novel devices to investigate multi-plane musculoskeletal injury mechanisms and off-axis rehabilitation of knee osteoarthritis and injuries.

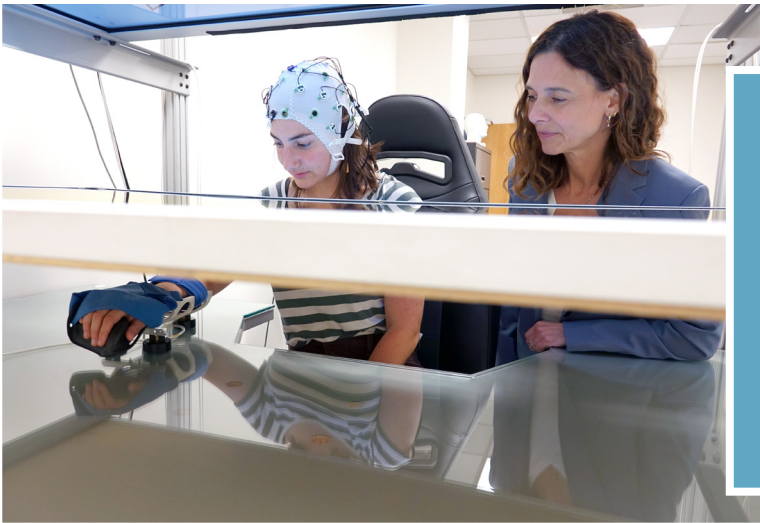
**Li-Qun Zhang, PhD,  
Professor**



# Research

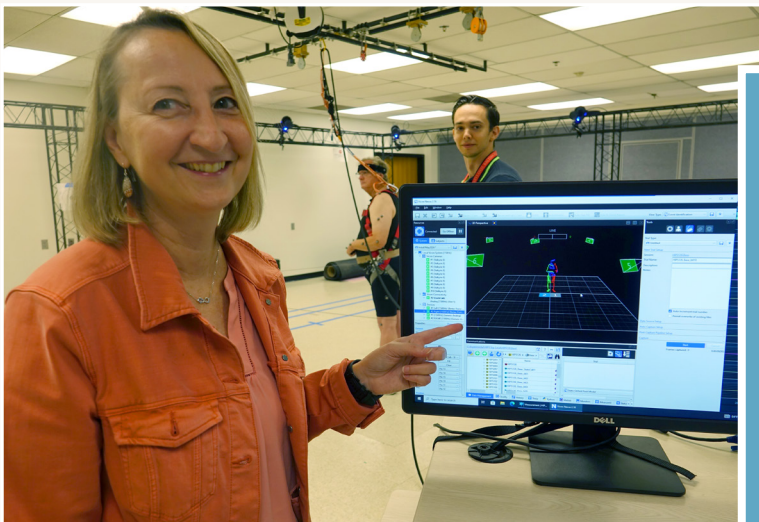
## Neuromotor Performance

Investigating neuromuscular and biomechanical impairments, functional limitations and novel interventions to improve movement in multiple conditions across the lifespan.



“My lab focuses on understanding how the brain controls movement and motor learning through an exciting interface between technologies and neurorehabilitation research.”

**Kelly Westlake, PT, MSc , PhD,  
Professor**



“My research focuses on studying how external balance perturbations can help us understand falls. By uncovering the complex mechanisms of how our bodies respond to unexpected disturbances, we are not only identifying risk factors but also paving the way for innovative interventions. ”

**Vicki L. Gray, MPT, PhD,  
Associate Professor**



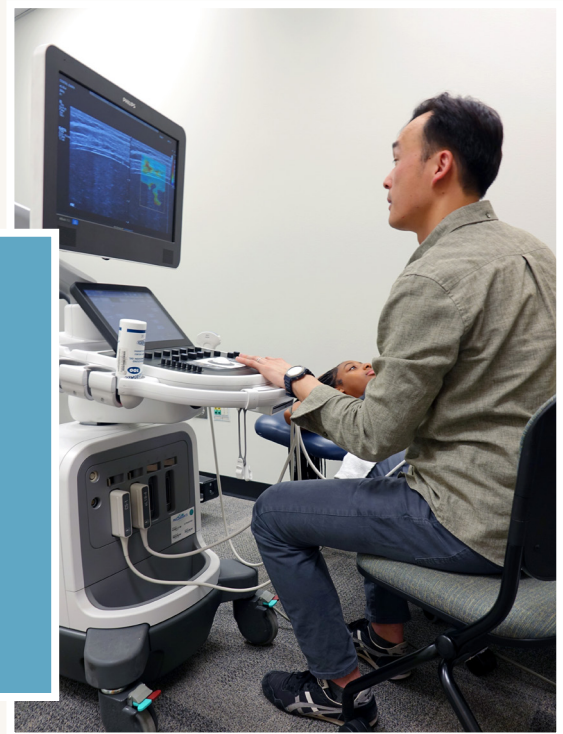
# Research

## Cardiovascular and Pulmonary Rehabilitation

Investigating cardiovascular and pulmonary impairments and the effects of intervention training in children and adults.

“Advances in technology are opening up new possibilities for collaboration across different research labs in our department. By combining our expertise and resources, we can push the boundaries of rehabilitation science and uncover new ways to improve patient outcomes.”

**Simon Ho, PT, DPT, PhD Candidate**  
**Assistant Professor**



## Education Training and Outreach



“Exposing high school students to research opportunities early in their education allows students to build their research skills and experiences to make them more competitive for future research programs.”

**Elizabeth Dennis, PhD, RD**  
**Assistant Professor**

# SUCCESS in Pediatric Research



*Caitlynn Thomas, Tori Marchese, PT, PhD, FAPTA*

Dr. Tori Marchese, Jane Kroh Satterfield Professor of Physical Therapy and Rehabilitation Science and Chair, recently launched a groundbreaking study called SUCCESS (Sickle Cell Children's Exercise Study), aimed at exploring the benefits of targeted exercise programs for children with sickle cell disease. The study's goal was to determine how specific exercises could improve neuromuscular performance, locomotor efficiency, and exercise tolerance.

Caitlynn Thomas is an energetic 10-year-old with a passion for soccer and a unique perspective on living with sickle cell disease.

She has been a part of the SUCCESS program since its inception, attending weekly sessions at Dr. Marchese's Pediatric Functional Performance Laboratory and diligently completing her exercises at home. She has become a familiar face in the hallways, always ready with a smile and a friendly wave. Her progress in the study has been remarkable. Tori decided to sit down with Caitlynn to understand how the program impacted her life and what advice she had for other children in similar situations.

**Tori:** Hi Caitlynn, thank you so much for participating in our Sickle Cell Children's Exercise Study, SUCCESS. We're hoping that the exercises we are doing with you will improve your speed, agility, balance, and coordination. Ultimately this will help us design better studies for children and young adults with sickle cell disease. I appreciate you spending time with me today to share your experience. To start, can you tell me a bit about what you enjoy doing in your day-to-day life?

**Caitlynn:** Sure! In the mornings, I follow my usual routine, and on weekends, I like to play outside with my friends. During school days, I focus on my studies, and in my free time, I play with my dog, Rocco. I also enjoy baking cakes with my mom and grandparents.

**Tori:** It sounds like you keep yourself busy! When you were at the doctor's office, someone asked if you were interested in participating in this study. What were your thoughts when they first mentioned it?

**Caitlynn:** At first, I was a little scared, but then I thought it might be fun because I like exercising and working out. So I decided to give it a try.





*Caitlynn Thomas*

**Tori:** I'm glad you did! Your initial tests with Dr. Simon Ho included the treadmill and breathing exercises. What did you think of those tests?

**Caitlynn:** The treadmill and breathing tests were really interesting. It was fun to do something different, and I learned a lot about how my body works during exercise.

**Tori:** Has anything surprised you about yourself during this study? Maybe something about your abilities or progress?

**Caitlynn:** I noticed that I'm running more smoothly and with better form. Even though we aren't running all the time, I feel like my running has improved. It's more fluid, and I'm getting better with each session.

**Tori:** That's fantastic! If you could share some words of encouragement with other children or young adults with sickle cell, what would you say to them?

**Caitlynn:** I would say, don't be scared to tell your story. Don't be afraid to explain to your teachers, friends, or anyone else about sickle cell. I was nervous at first, but my mom encouraged me to share, and now I'm happy to talk about it. It helps people understand what you're going through.

**Tori:** I love that. It's so important to be open and share your experiences. Before we finish, is there anything else you'd like to say?

**Caitlynn:** Yes, Don't bully other people for what they have, like mental illnesses or health conditions. I was bullied for my sickle cell, and it's not okay when people judge you. We should be kind to everyone, no matter what they're going through.

**Tori:** Thank you, Caitlynn. Your words are powerful, and I'm so glad you are part of this study. You have inspired me to keep pushing forward in my research and find new ways to help others with sickle cell live their best lives. Thank you for sharing your thoughts with me today.



*Caitlynn Thomas tests her locomotor efficacy with Dr. Marchese*

# Center for Disability Justice



PTRS is excited to announce the Center for Disability Justice. Under the direction of Jason Falvey, DPT, PhD, the center is committed to co-developing innovative research and policy solutions to dismantle ableism with community partners, with an overall goal of supporting health, wellness and social connectedness among persons with a disability.

Our Center has a special interest in mobility justice, consistent with our belief that unrestricted access to all areas of your home, community and medical facilities is a right, and not a privilege.

The Center will have 4 main pillars: 1) Population Health, 2) Community Engagement, 3) Disability Research Education and Training, and 4) Translational Disability Research—each pillar will support the center vision to promote equitable research engagement and opportunities for persons living with disability. The Center will also provide educational opportunities for students, fellows, faculty, and community members.





# Alumni Spotlight



## **Christine Danielson, PT, DPT, OCS, Class of 2014**

*Nominated for the PTRS Alum of the Year 2024 award*

Christine Danielson graduated in the top five percent of her class. Since graduation, Dr. Danielson has worked in the outpatient orthopedic and sports medicine field, using her sports background to develop an individualized plan of care to best treat her patients. She has completed training in Functional Dry Needling with KinetaCore Physical Therapy Education and is a Board Certified Orthopaedic Specialist. Dr. Danielson enjoys treating athletes from all backgrounds and levels and has a special interest in sports medicine. Christine is the Regional Manager/Physical Therapist at Fx Physical Therapy. Visit [FxPhysicalTherapy.com](https://FxPhysicalTherapy.com)

## **Shannon Will, PT, DPT, CSCS, USAW, XPS, Class of 2018**

Dr. Shannon Will is the Owner of Will Power PT. Will Power PT won Baltimore's Best Physical Therapy in 2022 and Runner up in 2023 and 2024. Dr. Will broke out of the in-network practice model to create an out-of-network and cash practice attracting athletes and active individuals seeking improved quality of care. Dr. Will has extensive experience in treating professional athletes, Division I collegiate and high school athletes. Visit [WillPowerSportsPT.com](https://WillPowerSportsPT.com)



## **Ashlynn Parker, PT, DPT, Class of 2016**

*Nominated for the PTRS Alum of the Year 2024 award*

Dr. Ashlynn Parker graduated at the top of her class and earned a perfect score on the national physical therapy licensing exam. Ashlynn has extensive training in pelvic floor physical therapy through Herman & Wallace. Dr. Parker, along with her husband and fellow PTRS graduate Dr. Brett Halpert, owns the successful Sparks Physical Therapy in Sparks, MD. Visit [SparksPhysicalTherapy.com](https://SparksPhysicalTherapy.com)

## **Lindsey Mathis, PT, DPT, Class of 2022**

Lindsey is a physical therapist, PTRS Alumnus, and 3rd year PhD student at PTRS. Her research focuses on the impacts of complex lung impairments on quality aging in place and home therapy for community-dwelling older adults. She is particularly passionate about demystifying and addressing racial disparities in geriatric care for older adults living with and recovering from lung disease. Lindsey is currently a funded trainee and student leader in the Epidemiology of Aging program by the National Institute on Aging. She has also obtained funding from the American Physical Therapy Association Home Care Section to investigate the impacts of neighborhood violence on recovery processes for older adults living at home.



# Community Engagement



## Special Olympics 2024

Students from our class of 2026 volunteered at the Special Olympics Maryland Summer Games. Students completed FUNFitness screenings, gathering various measures of flexibility, strength, balance, and aerobic capacity for the Healthy Athletes Program. We can't wait to volunteer next year!

## “Let’s Move” Low Impact Exercise Program

Students from the Class of 2026 recently led residents of Monteverde Apartments and Mount Clare Apartments, both in Southwest Baltimore, in a low impact exercise program called “Let’s Move” as part of their Medical Issues class. They did pre and post vital signs and some fall prevention education. A total of 35 residents participated in the vital sign screening and/or the exercise class. Participating PTRS faculty members included: Dr. Linda Horn, Dr. Roy Film, and Dr. Sarah Smith.



## Anatomy of Sports Day

Members of the Class of 2025 participated in Anatomy of Sports Day at the UMB Campus Center. Campus community members were intrigued by the body drawings and had their questions answered regarding injury prevention and conditioning. Members were invited to play sporting activities including tennis, basketball, running, and soccer. The event was supervised by Dr. Vincent Conroy.



# Global Health

## Visiting Brazil and Costa Rica

Our faculty recently had a wonderful visit to Belo Horizonte, Brazil, where Dr. Linda Horn spoke with first year students at the local physiotherapy school about Physical Therapy and Healthcare in the United States. The Sistema Único de Saúde, better known by the acronym SUS, is Brazil's publicly funded health care system. We visited several community clinics to learn about their health care.



We also participated in the first UMB/Costa Rica Faculty Development Institute. This was a wonderful opportunity to participate in an immersive faculty development program to enhance our learning about global health and enhance global health teaching in the DPT program. Our global health content was updated with contemporary information. PTRS has created local opportunities to serve the West Baltimore Community, and faculty and students are participating locally in other University activities using global health concepts.



# Clinical Practices

## Veterans Administration

PTRS faculty, in partnership with the Baltimore VA Medical Center's Geriatric Research, Education, and Clinical Center, established a multidisciplinary Balance and Mobility Clinic in 2019 to improve mobility and decrease fall risk among Veterans. The Director of this clinic is Odessa Addison, DPT, PhD. Currently, four faculty members Drs. Sarah Smith, Rachel Skolky, Linda Horn, and Jason Falvey (pictured) from PTRS rotate through the clinic weekly.

The primary goal of the Balance and Mobility Clinic is to support independence with mobility at home and in the community in at-risk Veteran populations, including those with complex medical conditions that make it difficult or impossible to participate in standard rehabilitation. All patients receive an evaluation or ongoing treatment by a team of healthcare professionals including geriatricians, nurse practitioners, and physical therapists at each visit. Everyone benefits from this collaborative and interdisciplinary care.

This clinic helps bridge unmet needs for tailored rehabilitation, equipment, and caregiver training that are common among medically complex older Veterans and connects them with resources to optimize health and social function.



## University of Maryland Medical Center

University of Maryland Medical Center (UMMC) rehabilitation services offer inpatient and outpatient settings to guide you through the next level of recovery for your surgery, injury or disease.

Lane White, PT, DPT, Assistant Professor (pictured) is a cardiopulmonary certified specialist at UMMC who teaches acute care, basic skills and cardiopulmonary content in the PTRS DPT program. She continues to treat patients and gives students the opportunity to put learning into practice in the hospital setting. Krystal Lighty, PT, MPT, is the Director of Rehabilitation Services at UMMC and works closely with the DPT program to provide our students with meaningful clinical experiences.



### Athletics

Michael Zarro, PT, DPT, SCS, CSCS, Assistant Professor (pictured top) and Robert Rowland, PT, DPT, OCS, RMSK, CSCS, Assistant Professor (pictured middle) serve as team physical therapists for the athletic department at both the University of Maryland, College Park and Baltimore County. In collaboration with a multi-disciplinary team of University of Maryland healthcare providers, both work with NCAA Division 1 athletes across all sporting teams to provide physical therapy services with the goal of helping athletes return to peak performance.

Additionally, they teach throughout the DPT program, emphasizing human anatomy, basic sciences, and musculoskeletal rehabilitation. They also conduct research on clinical outcomes and rehabilitation approaches for common sports injuries.



### Orthopaedics

Dr. Peter Bowman, PT, DPT, FAAOMPT, Assistant Professor (pictured) is the site therapy director of University of Maryland Orthopaedic School of Medicine Practice at Camden Yards and teaches within the Doctor of Physical Therapy program. He and his colleagues have recently been granted candidacy status for an Orthopaedic Manual Physical Therapy fellowship program.

Over the past eight years, the practice has expanded significantly, now boasting a dynamic team of 15 therapists. With a strong educational commitment, many of the physical therapists dedicate anywhere from 10% to 80% of their time to educational roles.



The University of Maryland Orthopaedics Outpatient Practice at Columbia office offers a broad array of services to treat orthopedic (bone, muscle and joint) problems from simple to complex. Our experts are leaders in their specialty areas and provide advanced treatments, such as minimally invasive techniques, which help reduce hospital and recovery time.

Alisa Pravdo, PT, DPT, OCS, Assistant Professor (pictured left) is a practicing physical therapist in the stunning new University of Maryland Orthopaedics and Sports Medicine at Hunt Valley location, encompassing more than 16,000 square feet of space including 16 exam rooms, an adult and pediatric physical therapy center, on-site imaging, a dedicated procedure room, and more.

# Emerging Leaders in PT

PTRS is deeply committed to advancing the profession of physical therapy through high-quality research, excellence in clinical practice, and advances in curricular design and delivery.

The Emerging Leaders in PT Endowment assists students with financial support to attend professional conferences or workshops pertaining to education and professional development. Attending the annual American Physical Therapy Association, Combined Sections Meeting conference or leadership development programs are the types of opportunities granted through this endowment. Because of this initiative, students graduate with the experience, dedication, and capacity to be leaders in the field.

Current student, Sarah Bryant, DPT Class of 2025, shares her thoughts on the importance of this endowment, "Having this funding available will provide opportunities to students who could become future leaders in PT and will also showcase PTRS at the University of Maryland School of Medicine as the excellent academic institution it is."



For more information or to learn how you can support this initiative please contact:

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# UNIVERSITY *of* MARYLAND

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