

#### PHYSICALTHERAPY • FALL 2024



Benjamin Darter, PT, Ph.D. CHAIR, DEPARTMENT OF PHYSICAL THERAPY VCU COLLEGE OF HEALTH PROFESSIONS

## **ENRICHING OUR LEADING PROGRAM**

The VCU Department of Physical Therapy has continued its transformational work over the past year. The development of a new strategic plan will guide our next steps. We will focus on enhancing the student experience, expanding our research and revitalizing alumni engagement. I am eager to see what the future brings.

In this issue we are excited to share some highlights from the past year with you. Researchers are using innovative technology to identify new approaches to long-standing patient concerns, including chronic back pain and concussion recovery. New faculty are bringing their interests in improving ambulation in individuals with lower limb amputation, and advocacy for physical therapy in holistic and equitable health care. In this issue, we also highlight our newest alumni, welcome another class to the program and celebrate the students leading the nation (again) in raising funds for research.

Lastly, I would like to encourage you to consider supporting the future of our program through contributions to one of our scholarships. The financial needs of the students are greater than ever and scholarships like the "Honor Our Mentors" scholarship can help incoming students manage the cost of the attendance.

I hope you enjoy the issue and thank you for your continued support of our groundbreaking program.

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### PT students launch degree journeys at White Coat Ceremony

In pairs, members of the Class of 2027 crossed the stage to accept their white coats – a symbol of their commitment to their future profession as physical therapists. But the fall ceremony was more than a rite of passage: It represented their commitment to a role that demands not only expertise and dedication, but also empathy and integrity.



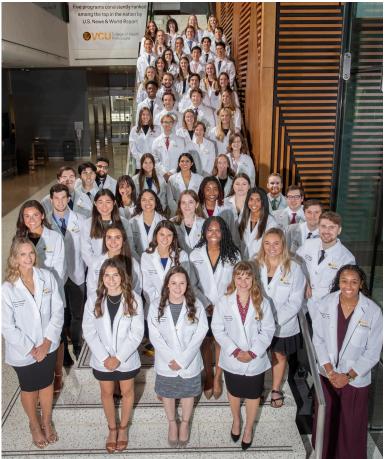
Kevin Ford, DPT, understands those demands firsthand. When people ask the 2003 VCU alum what he does for a living, he answers simply: "I optimize human weapon systems by treating fighter pilots that defend our nation."

As a physical therapist, he helps to ease the pain of pilots who

spend hours in restricted cockpit spaces, with their bodies contorted in odd positions. They also fly under a gravitational force that makes 200-pound individuals feel like they're 1,800 pounds.

"It's a lot of stress. ... I need to figure out how to streamline interventions and help to prevent those challenges," the guest speaker told the students. "I couldn't have imagined a job as a PT where I'm driving to and from work with Apache helicopters and F-16s flying overhead."

READ MORE ABOUT 2027 WHITE COAT CEREMONY.



# Alum returns to champion health equity



From Virginia clinics to remote Haitian villages, Kai Kennedy, DPT, has dedicated her career to ensuring that everyone – no matter their background or zip code – has access to the care they need to live their fullest lives.

This fall, Kennedy returned to VCU as a faculty member in the Department of Physical Therapy, where she earned her doctorate in 2005. And she brought with her a mission of transforming how health care is delivered and experienced.

After a decade as a front-line clinician, she shifted her focus to academic research and teaching as a health policy and advocacy champion. "I've had quite the journey across my career," Kennedy said.

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# Kline brings new vision to mobility study of individuals with lower-limb amputations

Growing up in a rural North Carolina community that attracted a lot of retirees, Paul Kline watched his neighbors struggle daily with mobility issues. "I joked that's how I became interested in physical therapy," Kline says.

But Kline, DPT, Ph.D., who arrived as an assistant professor this year, didn't realize his path wouldn't keep him in the clinic. While pursuing his physical therapy training, he discovered his true calling: clinical research. "One of my professors ... took me under his wing and helped me understand how to not only conduct research, but how to think about building a career in science," he said.

Now Kline is <u>leading a VCU study</u> on unique challenges faced by individuals with lowerlimb amputations. "A lot of the work I've done in the past has been around trying to make gait more symmetrical after amputation," he said. "But in talking to participants, I realized we're missing something: the cognitive and visual aspects of mobility."



Paul Kline

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### Long-term educators, researchers retire as emerti faculty



Daniel Riddle, Ph.D., also served in Orthopaedic Surgery and Rheumatology departments and as PT coordinator of CHP's Ph.D. distance-learning program. His primary research interests are in pain persistence, recovery and prognosis of knee osteoarthritis and knee arthroplasty, musculoskeletal diagnosis, outcomes and prognoses of various musculoskeletal disorders.



**Sheryl Finucane, Ph.D.,** coordinated PT graduate programs and co-directed the interdisciplinary Rehabilitation and Movement Science Ph.D. program. Her primary interests are in the effects of injury, disease, aging, and therapy on the structure and function of the musculoskeletal tissues.

### Using robotics to advance concussion recovery



A VCU team — including researchers from CHP's Department of Physical Therapy and the College of Engineering — is using robotic technology to better understand the long-term impacts

that concussions can have on patients. The project seeks to develop a model for

assessing the level of physical impairment caused by a concussion and how long it takes to recover.

A concussion can occur after a person experiences trauma to the head. Symptoms vary depending on the injury severity, but people commonly experience issues with their vestibulo-ocular reflex, which stabilizes a person's gaze by moving the eye in the opposite direction to where the head moves. Disruption of this reflex can result in movement-related dizziness, blurry

#### Lamb Lecturer Prescribes Exercise for Parkinson's



From the moment of diagnosis, patients with Parkinson's disease should participate in resistance training, aerobic exercise, stretching and even balance practice, according to Daniel Corcos, Ph.D., who delivered the annual Robert Lamb Distinguished Lecture in September. The world-renowned Northwestern University professor explained why it's important to prescribe exercise for patients with Parkinson's and similar diseases.

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vision and difficulty maintaining balance.

"If you are focusing on a distant object and then move your head 10 degrees to your left, your eyes automatically will move 10 degrees in the opposite direction," said Peter Pidcoe, DPT, Ph.D., professor of physical therapy and director of the Engineering and Biomechanics Research Lab. "This reflex keeps the object visually stable. When this reflex isn't functioning properly, people often feel a sense of motion sickness and have degraded hand-eye coordination."

The study involves a robotic arm designed to help measure impairments to the vestibulo-ocular reflex in individuals who have sustained concussions at some point in their lives.

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# Immersive VR intervention offers hope for chronic back pain relief

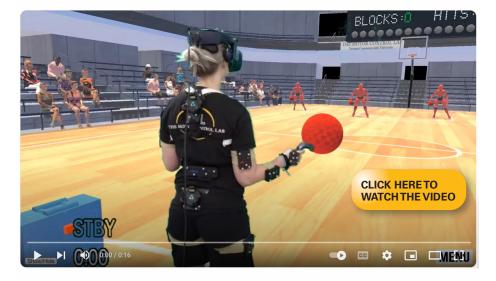
Whether playing simulated dodgeball or fishing, individuals who participate in immersive video games get distracted from chronic back pain and make specific movements that ease their discomfort and allow them to engage in more active lives, according to preliminary findings by a VCU physical therapy researcher.

James Thomas, Ph.D., professor and director of the Motor Control Lab, presented the early results based on five years of data collection during the International Association for the Study of Pain's 2024 World Congress this summer in Amsterdam.

The promising results showed a 31% decrease in pain and a 300% reduction in disability among participants, according to Thomas, a leading researcher in the field of virtual reality (VR) and chronic pain. Funded by a \$3.5 million grant from the National Institutes of Health, the study explores the use of immersive VR games as an intervention that encourages movement.

"We've developed a suite of VR games specifically designed to get people with chronic back pain to engage in trunk movement, which they often try to avoid due to fear," said Thomas, who has been studying this approach for more than a decade and published more than 20 papers on related research. "The underlying thought is that if you can get people to move, over time, they will implicitly learn they can move again."

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# **Class of 2024 launches at May Commencement**

The 57 members of the Class of 2024 collected their DPT diplomas in May – primarily leaving the stage with plans to go directly into PT practice or continue their education. Founded in 1931, the VCU Physical Therapy program is ranked No. 1 in Virginia by *U.S. News & World Report,* which also lists VCU among the best in the nation.



#### Scholarships awarded during annual special events

In addition to welcoming the incoming Class of 2027 and presenting them with their white coats, the Physical Therapy team presented scholarships to more than a dozen students across the program during its fall White Coat Ceremony. Those awards join a pair of scholarships presented during Commencement activities last spring.

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### VCU wins Marquette Challenge for 5th straight year

Keeping a streak going, VCU PT students raised the most funds for research to earn the Marquette Challenge earlier this year. Key events included golf and cornhole tournaments.

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