

School of Health and Rehabilitation Sciences

> DEFINING THE PAST. ENVISIONING THE FUTURE.

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While no one was paying attention to the problem,

WE CREATED A SOLUTION.

There wasn't a way, so we invented one. No one had done it before, so we became the first.

Throughout our 50-year history, the School of Health and Rehabilitation Sciences (SHRS) has been on the cutting edge of change. We've achieved one success after another, pushing theory, higher education, research and clinical practice in new directions.

As the result of our work, more of us are living independently, competing in the game and experiencing life without pain. Even enjoying everyday activities like playing at a waterpark with friends.

Going beyond the limitations—whatever those limitations might be—drives SHRS and its community to do more; to reach higher and fight harder to expand the boundaries of science in order to improve our health. A world free of barriers and disparities is our mission.

Our past accomplishments are inspiring. They are a testament to the fortitude of many—faculty, students, alumni, staff and friends—whose legacies extend back to the 1920s when the Physical Therapy program first operated at the D.T. Watson School in Sewickley, Pennsylvania.

But our future potential is limitless. As you revisit some of the defining moments of our past, we invite you to see how bold moves define us. How they create leaders, drive research and transform the world as we know it.

You can only imagine what barrier we'll break next.

Past, present and future.

They are trailblazers and visionaries hailing from different disciplines. Those who lead the charge at SHRS share one common goal: to make a difference in the lives of others.

- Trailblazing Leadership
- > Servanthood
- Culturally Responsible Workforce
- > Pioneering Step
- > Inspiring Excellence
- Leading Change
- > National Distinction
- > Presidential Material





> TRAILBLAZING LEADERSHIP

When the School of Health Related Professions (now SHRS) opened in 1969, Dr. Anne Pascasio was the only female dean among the existing 19 schools of health sciences in the nation.

Dr. Anne Pascasio Founding Dean of SHRS

SERVANTHOOD

Servanthood drives Dr. Alyson Stover to change the face of the health professions. She is the first and only occupational therapist invited to serve on the Pennsylvania Department of Health's Safe and Effective Prescribing Guidelines Task Force for treating pain in patients with opioid use disorder. Stover is piloting a study that examines the feasibility of occupation-based interventions that address the needs of pregnant women with opioid addiction.





CULTURALLY RESPONSIBLE WORKFORCE

The faculty of the Department of Physician Assistant Studies worked closely with alumna Kathryn Reed (BS '14, MS '16), as she launched the first National Society of Black Physician Assistants whose mission is to diversify the profession and improve health outcomes, especially in Black communities.





FACTOID: Kathryn Reed (PAS '16) launched the first National Society of Black Physician Assistants.



> PIONEERING STEP

SHRS created its Department of Rehabilitation Science and Technology in 1994 making it the first in the world—under the leadership of former Dean Clifford E. Brubaker, PhD. This was a pioneering step in applying science to the needs of those with disabilities and the challenges they face. Today, the department has achieved renown for its assistive technology training and research and houses one of only 13 orthotics and prosthetics programs in the nation. Faculty cite as key strengths the school's collaborative research environment; strong connection to the UPMC health care system; and fortitude in pursuing research issues that receive little attention but greatly affect the quality of life for the sick or dying, the aging and those with low mobility.







Dr. Jennifer Brach Professor in the Department of Physical Therapy

> INSPIRING EXCELLENCE

In 1995, the Emergency Medicine program along with a group of industry leaders founded the National Association of EMS Educators. The group is designed to inspire educational excellence and is currently made up of over 3,000 national and international emergency medical services educators.

> LEADING CHANGE

In 2005, Dr. Jennifer Brach was the first nonphysician and the only physical therapist to receive the prestigious Paul B. Beeson Emerging Leaders Career Development Award from the National Institute on Aging, an honor given to early stage investigators who are poised to change theory, practice and health outcomes in the field of aging and geriatrics research.







> NATIONAL DISTINCTION

Dr. Elizabeth Skidmore became the first and only occupational therapy scientist to receive a Presidential Early Career Award for Scientists and Engineers in 2013. Skidmore focuses on innovative rehabilitation treatments that promote greater independence and community re-engagement for those with cognitive impairments.

Dr. Elizabeth Skidmore *Professor in the Department of Occupational Therapy*

> PRESIDENTIAL MATERIAL

Two Department of Health Information Management faculty members have served as president of the American Health Information Management Association, a professional organization of more than 100,000 members.

In its 93-year history, the Department of Physical Therapy has trained four professionals who went on to become presidents of the American Physical Therapy Association.

As of 2021, a member of the Department of Occupational Therapy became the first Pitt faculty elected president of the American Occupational Therapy Association.

Three Department of Communication Science and Disorders graduates and a faculty member have served as president of the American Speech-Language-Hearing Association. The department also claims one president of the American Academy of Audiology and two past presidents of the Council of Academic Programs in Communication Science and Disorders.



RESEARCH»»

Moving us boldly into the future.

Bold ideas stretch the boundaries of science, drive technological advances and open the world to new possibilities.

- Forward Thinking
- > AI and MEBots
- > Landmark Trials
- > Live Independently
- Promising Solutions
- Lifesaving Seconds

- PneuChair Creates a Splash
- Top of One's Game
- > Re-inventing the Wheel
- > Birth of "Exergaming"





FORWARD THINKING

Recognizing the critical role of health information management (HIM) in developing and maintaining systems that collect health care data, the Department of Health Information Management launched the first graduate program for HIM professionals in 1981. Fast forward to 2020, the department offered SHRS' first online master's program in health informatics.









Dr. Rory Cooper HERL Director

> AI AND MEBOTS

The Human Engineering Research Laboratories (HERL) were the first to bring artificial intelligence (AI), machine learning and contextual awareness to assistive technologies. With the use of real-time data and connected devices, HERL's Virtual Seating Coach app responds to the environment to help wheelchair users safely navigate curbs, hills and bus rides and has greatly reduced injuries. The MEBot (Mobility Enhancement Robotic Wheelchair) automatically lifts itself when it senses potentially hazardous surfaces such as ice and wetness. HERL researchers are working to develop a stair-climbing MEBot that eliminates another barrier for those with low mobility.







> LANDMARK TRIALS

The Department of Rehabilitation Science and Technology has conducted landmark clinical trials that proved the effectiveness of seat cushions and support surfaces to prevent pressure ulcers, a serious condition that causes more deaths per year than automobile injuries. Today, the department's centers, such as the Rehabilitation Engineering Research Center, continue to build on this legacy by translating the knowledge generated at SHRS into the creation of cushion standards and other measures, making it possible for people to provide and receive better health care.









FACTOID: A science-based tool helps to determine whether individuals can perform daily activities and pinpoints interventions for living independently.

> LIVE INDEPENDENTLY

Drs. Joan Rogers, Margo Holm and Denise Chisholm developed a critical occupational therapy tool that provides scientific evidence of an individual's ability to perform basic and instrumental activities of daily life instead of relying on self-reports or those of family members. A free and accessible tool, the Performance Assessment of Self-care Skills (PASS), allows clinicians to pinpoint interventions that help the aging and those recovering from an illness or injury to remain in their homes and communities. PASS is widely used and has been translated into 10 languages.







> **PROMISING SOLUTIONS**

The Physician Assistant Studies program was among the first in the country to address the opioid crisis by integrating medication-assisted therapy training into its curriculum. Medication-assisted therapy, or the use of medication in addition to counseling and behavioral therapies, has proven effective in the treatment of opioid use disorders and can help people to sustain their recovery.

> LIFESAVING SECONDS

The Neuromuscular Research Laboratory (NMRL) led the way in applying sports medicine research with elite athletes to the training of U.S. Army Rangers, U.S. Navy SEALs and other elite U.S. military groups. These science-based individualized interventions, which developed into the Eagle Tactical Athlete Program, reduced injuries and improved safety. Today, the work of the NMRL plays a role in identifying variables for maximizing soldier performance and injury prevention in all of the armed services.





FACTOID: Power wheelchairs that could get wet didn't exist until HERL developed one for an ultrainclusive theme park in San Antonio, Texas.

> PNEUCHAIR CREATES A SPLASH

How do you make a water park more inclusive for children with physical and cognitive disabilities where power wheelchairs can get wet without losing functionality or becoming dangerous? Through the innovative work at the Human Engineering Research Laboratories (HERL)! Dr. Rory Cooper and his team of researchers developed the PneuChair, a wheelchair propelled solely by compressed air, which makes it possible for children who use power wheelchairs to play in splash parks, on beaches and at pools with their friends.







TOP OF ONE'S GAME

The Neuromuscular Research Laboratory (NMRL) developed the first scientifically validated program to enhance golf fitness and performance with World Golf Hall of Famer Greg Norman. The UPMC Center for Sports Medicine, the Pitt Department of Orthopaedic Surgery and an advisory board of PGA golf and teaching professionals also collaborated on the Par without Pain program, which worked to prevent injuries common to golfers.

NMRL's early work with athletes identified the risk factors and the biomechanics associated with anterior cruciate ligament (ACL) injuries and played a major role in the decline of painful ACL injuries that keep players sidelined.

RE-INVENTING THE WHEEL

By collecting data in real-world situations instead of in a lab, the SmartWheel marked the application of science to the experiences of wheelchair users for the first time. This 1995 invention—still the most widely used tool in the world for clinical kinetic assessment— was developed by researchers at the Human Engineering Research Laboratories (HERL).

Such ingenuities sparked new solutions and many assistive technologies that have meant fewer injuries and less pain for the millions of people with low mobility worldwide. For example, HERL's pressure-sensing joystick, which can be operated with little or no movement, provides greater independence to those with amyotrophic lateral sclerosis (ALS), advanced multiple sclerosis and cerebral palsy.





FACTOID: SHRS developed the technologies that became the basis for exergaming and the forerunners of today's wearable devices.

> BIRTH OF "EXERGAMING"

The first examples of gaming to benefit those who need assistive technology, GAMEWheels and GAMECycle, revolutionized therapy for those with spinal cord injuries, traumatic brain injuries and other conditions. These technologies became the basis for exergaming the application of playing video games that involve physical exertion in medical rehabilitation and were the forerunners of today's mobile health apps and wearable devices.



INNOVATION>>>

A transformative philosophy guides us.

We've raised the bar and established standards, created new programs and novel therapies and revolutionized community engagement. In so many ways, SHRS has changed the practices of the past and is ready to impact the future.

- A Revolutionary Approach
- First of its Kind
- > Forever Changed
- **Breaking Barriers**
- EMS Standards
- Community Integration

Praiseworthy

- The Finest
- > An Original
- Prosthetics and Orthotics

 - Aphasia Rehabilitation







> A REVOLUTIONARY APPROACH

Physical therapy faculty and researchers changed how physicians diagnose and treat sufferers with low back pain. Drs. Anthony Delitto, current dean of SHRS, Dick Erhard and Rick Bowling developed this revolutionary classification system. The approach recognizes that, for the vast majority of people who suffer from low back pain, the actual cause is unknown. The system was developed after Delitto, Erhard and Bowling observed certain patients were more highly responsive to specific treatment approaches. The several "treatment-based classifications" proposed and described in a 1995 article were refined through numerous studies. Today, these classifications guide practitioners in non-pharmacological approaches to low back pain care.





FIRST OF ITS KIND

Pitt's bachelor's program in occupational therapy, established in 1982, was the first of its kind in Western Pennsylvania. In 2017, 35 years later, the Department of Occupational Therapy had three of its faculty named to the American Occupational Therapy Association's list of the 100 most influential people during the field's 100-year history: Drs. Joan Rogers, Margo Holm and Elizabeth Skidmore.



FACTOID: The American Occupational Therapy Association's list of the 100 most influential people in the field's 100-year history includes three SHRS faculty members.

FOREVER CHANGED

During the polio epidemic of the 1940s and '50s, physical therapists from the D.T. Watson School collaborated with Jonas Salk on cutting-edge research and successfully contributed to clinical trials that forever changed the trajectory of physical therapy training. D.T. Watson School's medical director and physical therapist Dr. Jessie Wright developed the rocking bed for children and adults with polio, which reduced pressure sores and helped individuals breathe easier without the use of an iron lung. Pitt's Physical Therapy program, one of the oldest in the United States, first operated at the D.T. Watson School, where faculty and students assisted those with polio during the epidemic that spanned the mid-20th century.









BREAKING BARRIERS

The Neuromuscular Research Laboratory's (NMRL) studies into military occupational areas and the development of personalized training plans paved the way for the growing number of women serving in the U.S. military in combat positions. All military occupations and positions opened to women without exception in January 2016 following a briefing before the U.S. House Armed Services Committee that included testimony from Dr. Katelyn Allison of the Department of Sports Medicine and Nutrition.



FACTOID: Research into military occupational areas paved the way for the growing numbers of U.S. women serving in combat positions.





EMS STANDARDS

In the 1990s, the Emergency Medicine program faculty developed the national standard curricula for the four levels of emergency medical services (EMS) providers in the United States.

COMMUNITY INTEGRATION

The Department of Communication Science and Disorders created a unique model of clinical education among universities and colleges across the nation by integrating field work experiences in real-world settings, including UPMC, the VA Pittsburgh Healthcare System and community clinics, rather than sending students into school-based clinics for audiology and speech-language pathology training.











FACTOID: The American Academy for Gerontology in Higher Education lauded the Doctor of Occupational Therapy Program's commitment to geriatrics and innovations, including the Pitt OT Advisory Think Tank.

PRAISEWORTHY

The Doctor of Occupational Therapy program was the first graduate program in the nation to attain the Academy for Gerontology in Higher Education (AGHE) Program of Merit for Health Professions. This designation recognizes the department's commitment to incorporating gerontology and geriatrics throughout its curriculum. The academy praised the breadth and depth of the program's community partnerships and program innovations, such as the Pitt OT Advisory Think Tank.



> THE FINEST

In 2019, Pitt's accelerated Dietitian Nutritionist Program was one of the nation's early adopters of the Academy of Nutrition and Dietetics' Future Education Model Accreditation Standards, signaling its place as one of the finest academic programs of its kind in the United States.

> AN ORIGINAL

The Department of Communication Science and Disorders introduced its Audiology Teaching Conference in 2005. This "teach the teachers" conference is the only one of its kind in the discipline, attracting dozens of attendees from across the country and around the world.

> PROSTHETICS AND ORTHOTICS

In 2010, SHRS launched a Master of Science in Prosthetics and Orthotics program, one of only 13 in the United States.

> APHASIA REHABILITATION

Losing the ability to express one's thoughts and ideas through language a condition known as aphasia—is frustrating, confusing and disempowering. The Department of Communication Science and Disorders has contributed significantly to the treatment of this isolating condition.

- The Program for Intensive Residential Aphasia Treatment and Education (PIRATE) was developed by Dr. Patrick Doyle (MA '80, PhD '87) of the Department of Communication Science and Disorders. PIRATE is offered at the Veterans Health Administration (VHA) and has become a national model in VHA for the rehabilitation of veterans with aphasia. The research conducted at the VHA provides clinical trials for aphasia intervention, with encouraging outcomes for patients.
- A standardized test for people with aphasia, created in 1972 by Dr. Malcolm McNeil of the Department of Communication Science and Disorders, is widely used and has been translated into multiple languages.

Bold Moves have propelled SHRS forward in the past.

BOLD MOVES WILL SHAPE OUR FUTURE."

— Dr. Anthony Delitto Dean, School of Health and Rehabilitation Sciences SHRS is a nationally renowned leader in the field of health care education, research and clinical practice preparation. With 13 different disciplines related to health and rehabilitative care, SHRS shapes future generations of health care professionals therapists, counselors, advocates, scientists, providers and practitioners—trained to serve the needs of all people regardless of background, levels of health or mobility. We are built on a legacy of academic excellence and innovation and fueled by passionate educators and researchers, allowing us to meet the health care and rehabilitation needs of today and drive the changes of the future.

Want to learn more? Visit SHRSBragBook.pitt.edu to learn about the latest accomplishments of SHRS.

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