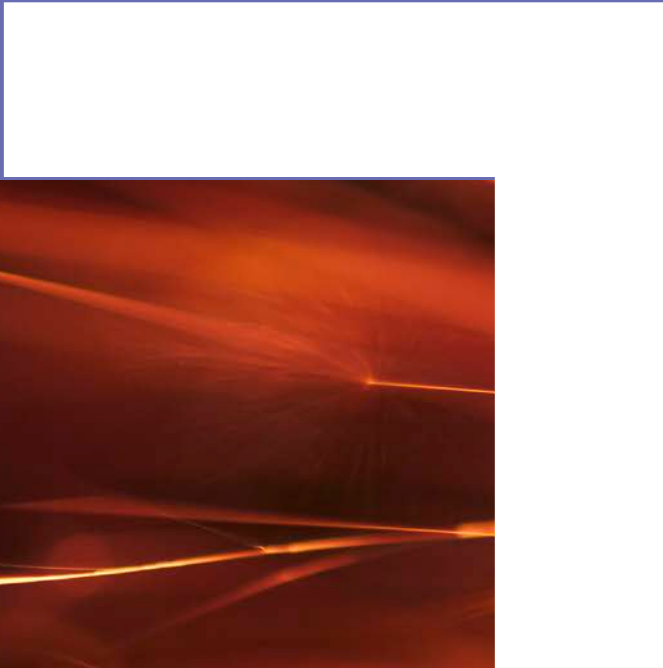




**College of Applied  
Health Sciences**

UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN

# MOVING **FORWARD**



AHS YEAR IN REVIEW 2021



“

I alone cannot change the world,  
but I can cast a stone across the waters  
to create many ripples.

Mother Teresa



# MESSAGE FROM THE DEAN



After another rocky start to the year with the continuing pandemic, we inched closer and closer to normal as the year progressed. Much to the relief and delight of students, faculty, and staff, the University of Illinois Urbana-Champaign resumed full on-campus operations in August 2021 after nearly a year-and-a-half of remote work and cancelled events. Most classes were held in person. Halls, classrooms, and offices were once again populated, and fall traditions such as Homecoming returned.

That was the good news. The bad news was and remains that the COVID-19 pandemic has not yet ended, but the campus put a variety of measures in place to keep the university community safe. Faculty, staff, and students were required to be vaccinated. Those who were exempted because of health-related or religious reasons were required to continue testing regularly. Masks were required in all university buildings. To gain entry to those buildings, one had to show "Building Access Granted" proof through the Illinois app.

We continued to hold some events virtually but were excited to have many of our traditional fall events face-to-face. For the first time in two years, faculty and staff of the College of Applied Health Sciences gathered for the college meeting, our first official event of the fall semester, and heard Dr. Wendy Rogers deliver the 2021 McCristal Lecture.

After a challenging year of isolation and largely online learning, new and returning students flocked to campus. The college saw a record-setting enrollment of freshmen and transfer students, boosting overall college enrollment to 2566 students. Many of the new students turned out for the Fall Welcome, where they learned about research opportunities, special programs, and student organizations within the college. We also were able to hold in-person events to dedicate the McKechnie Family LIFE Home and to celebrate alumni award recipients, and our Homecoming tent party was well attended.

You will read about some of these events and others, as well as about AHS research and faculty achievements, in this issue of *Moving Forward*. You also will meet some of our outstanding new students and our new faculty members, and learn about instructional and outreach programs that are making an impact.

COVID-19 may demand that we continue to be cautious and careful, but there is progress on that front. Vaccines appear to be effective either at keeping COVID infections at bay or keeping breakthrough infections mild, and many companies are working on therapies to minimize the virus' impact. Many of these advances hold the potential to create new treatments for other life-threatening diseases. We have cause for hope and optimism as we look to the future.

As a college that is dedicated to the health and well-being of individuals across the lifespan and throughout a diverse society, AHS continues to embrace, espouse, and fight for equity, opportunity, fairness, and inclusion in our teaching, research, and public engagement activities. As we prepare students for their futures and connect with people from our past, we hope all share this commitment. Together, we can make a better world for all.

Sincerely,

A handwritten signature in black ink that reads "Cheryl Hanley-Maxwell".

**Dr. Cheryl Hanley-Maxwell**  
Dean, College of Applied Health Sciences



# RECORD ENROLLMENT ON CAMPUS

**IN SEPTEMBER, CRAIN'S CHICAGO BUSINESS REPORTED THAT ENROLLMENT ACROSS ALL THREE CAMPUSES IN THE UNIVERSITY OF ILLINOIS SYSTEM "SOARED TO NEW RECORDS" IN THE FALL, WITH ALMOST 95,000 STUDENTS JOINING UNDERGRADUATE, GRADUATE, AND PROFESSIONAL PROGRAMS.**

The Urbana-Champaign campus enrolled 8,303 freshman, bringing total student enrollment to 56,299, the largest number in the history of the university. In addition to the second-largest number of in-state freshmen to enroll in 10 years, first-year students represent 44 other states as well as 42 countries. Slightly more than 20 percent are from underrepresented groups, with a similar percentage being first-generation students.

The College of Applied Health Sciences also set records for undergraduate student enrollment. Almost 500 new students—364 first-year students and 129 transfer students—joined the college, making the total undergraduate enrollment 2,147. More than 33 percent of undergraduates are from underrepresented groups. Graduate student enrollment also increased, to 419, with 22 percent being from underrepresented groups. Total student enrollment in AHS now stands at 2,566 students.

Gretchen Adams, assistant dean for undergraduate student affairs, said that while the growth of the AHS community is exciting, the college remains committed to keeping the quality of its educational experiences high and meaningful. "We are deeply committed to students and their success, and that will not change," she said.

Adams believes the higher enrollment may be related to strong interest in healthcare and well-being, which have been heightened by the pandemic experience. "The pandemic has highlighted the need for quality healthcare and brought individual and community wellness to the forefront, and health and wellness are foundational to all five of our majors," she said. "COVID created a unique set of health-related problems and challenges, and my hope is that students choose our majors because they want to be part of the solution."

**MOVING FORWARD REACHED OUT TO SOME OF THE STUDENTS WHO JOINED AHS LAST FALL TO GAIN MORE INSIGHT INTO THEIR CHOICES. WE LET THEM SPEAK FOR THEMSELVES.**



### ARIANA SANCHEZ

Ariana is a first-year student majoring in kinesiology and hopes to become an athletic trainer.

“I learned about the program as I was researching different majors on the internet. What attracted me to this degree was the fact that it was located within the College of Applied Health Sciences. I was really impressed that although AHS is a smaller college on campus, it offers an incredible amount of opportunity to grow as a student and as a professional. In the College of Applied Health Sciences, I am pushed every day to be the best version of myself, academically and personally, as I am surrounded by outstanding professors and classmates who have the same drive as I do.”



### NATALIE WOCH

Natalie is a first-year student in recreation, sport and tourism who hopes to work in professional or college sports.

“I have been a huge sports fan all of my life. I looked up the best schools for a sports management degree and the University of Illinois Urbana-Champaign was very near the top. When I saw Illinois offered a sports major, I did not hesitate to choose it. I have already built so many connections in my first semester. I believe my studies in AHS will help me toward my future goals by teaching me crucial lifelong skills that will help me to stand out in the workforce. The things I have already learned about leadership and diversity are making me more confident than I have ever been before.”



### COLLIN SEXTON

Collin is a transfer student pursuing studies in speech and hearing science with a focus on audiology.

“My uncle studied speech and hearing science here, so knowing someone who had been through the program was a big selling point. I can remember being as young as first or second grade and hearing my uncle talk about Illinois. Another thing that attracted me is that the program focuses heavily on research. I have thought about the possibility of returning to a university as a speech and hearing science professor. My studies in AHS will help me to be the best clinician for my patients because I am getting a great education from one of the most reputable programs in the country.”





**WE ARE DEEPLY COMMITTED TO STUDENTS AND THEIR SUCCESS, AND THAT WILL NOT CHANGE.**

**GRETCHEN ADAMS**



## DANNY MOON

Danny is an international transfer student from South Korea. He is studying kinesiology and plans to become a strength and conditioning coach.

“I’ve been involved in sports ever since I learned how to walk. I looked at degrees related to sports and decided kinesiology would open the most opportunities. My academic counselor in South Korea thought Illinois would be a good fit for me. I decided to come here after researching opportunities, student life, the quality of education, and clubs and organizations. I noticed how diverse the university is. I felt I would fit in smoothly with the student community here.”



## ABBEY PAIK

Abbey is a first-year interdisciplinary health sciences student who hopes to create medically prescribed video games that help adults improve coordination and memory.

“When I was looking at colleges, I wasn’t sure which profession I wanted to pursue so it was important to choose a major that didn’t limit me. I was lucky to have found the I-Health program, which is very flexible. I decided on Illinois because of the housing options, tuition, and academic prowess. It’s far enough away from home to feel independent, but close enough to visit. I think my studies in AHS will help me towards my future goals because of the broad range of applications it offers. I feel like I’ll have the ability to do what I want regardless of the professional path I choose.”



## JOSIE LAPAPA

Josie is a first-year student in speech and hearing science who plans to become a speech-language pathologist.

“My cousin was born with a developmental disability and suffered from immense isolation growing up. As a speech-language pathologist, I will be able to help those with developmental disabilities to find their voice and become their own advocates. Illinois’ program not only allows me to pursue my dream job, but also offers great research opportunities, intimate and interesting classes, and peers that are just as passionate as myself! I have had countless positive interactions with incredible AHS students and staff, and simply being surrounded by such an encouraging crowd will help me to succeed.”





## MONICA TURCHYN

Monica transferred into the community health degree program from Parkland College. She plans to become a physician assistant.

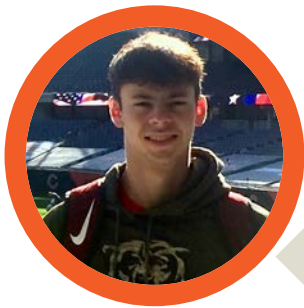
“I appreciate community health’s approach to wellness as a whole—physical, spiritual, mental, financial, nutritional—and think it’s very important for understanding how to help someone heal. With the current pandemic going on, I recognized that many of the organizations that were working to curb the effects of the virus were community health workers. My major, with a double concentration in health education and promotion and rehabilitation studies, will be a great foundation for becoming a well-rounded physician assistant.”



## J.T. TEMPLE

J.T. is a first-year student in kinesiology who plans to pursue a career as either a physician or physician assistant.

“As an athletic person, I was attracted to the kinesiology program because I was looking for a health-oriented major that was oriented toward sports. I learned about the major by looking first at the University of Illinois Urbana-Champaign website, which directed me to the College of Applied Health Sciences website. Both had good information. Kinesiology takes a broader look at health as a whole and how to promote healthier lifestyles, so it will be a good foundation on which to build a career in medicine.”



## MARK BOSTROM

Mark is a first-year student in recreation, sport and tourism who hopes either to work for a professional sports team or a sports media outlet.

“I searched the web for top sport management programs and learned that Illinois’ program is ranked nationally. I liked hearing from students about their internships and jobs during virtual information sessions. Illinois’ program gives students a broad understanding of all the possible areas they could pursue. I chose Illinois because of its superior curriculum, excellent reputation, and clear communication throughout the college search process. There was never a time that a question went unanswered. It was a sign that I was not going to be just a number at Illinois.”



## KENDALL BOSTIC

Kendall is a transfer student and member of the Illini women’s basketball team. She plans to become a speech-language pathologist.

“The speech and hearing science program at Illinois is one of the top programs in the country. I knew I would learn the most here and have the best of both worlds in an up-and-coming women’s basketball program and a prestigious speech and hearing science program. I hope to work with young and special needs children in schools and eventually in my own practice. The program in SHS prepares you for all sorts of scenarios that can be thrown your way. I know that once I graduate, I will be confident in everything that I have learned.”



# WELCOME HOME



## LIFE HOME OPENS FOR BUSINESS

**AFTER FOUR YEARS OF PLANNING, FUNDRAISING, DESIGN, AND CONSTRUCTION, THE RIBBON WAS OFFICIALLY CUT ON THE MCKECHNIE FAMILY LIFE HOME.**

The McKechnie Family LIFE Home, which will serve as a campus hub for interdisciplinary research, education, and outreach that supports and enhances the quality of life for people of all ages and abilities, was dedicated on October 7, 2021. Research had been underway in the facility since March, but in a limited capacity due to restrictions related to the COVID-19 pandemic.

The vision for the Living in Interactive Future Environments, or LIFE, Home is a world in which technology supports our quality of life at home. The nearly 6,000-square-foot building houses a fully functional two-bedroom home with open-plan kitchen and living area and attached garage. There is smart technology throughout the home, including a smart refrigerator and oven, home sensors, and robots that can pick up objects or be used for telehealth purposes. A state-of-the-art camera and microphone system enables researchers and industry partners to watch research participants use technology from a sequestered observation area that does not interfere with natural interactions.

In addition to the home simulation, the facility includes multipurpose research and collaboration rooms and a Health Technology Innovation Lab where rapid prototyping of new devices can take place. Research in the McKechnie Family LIFE Home will focus on developing and testing new technologies that support independent living, healthcare needs, and social interaction.

Wendy Rogers, Shahid and Ann Carlson Khan Professor in the College of Applied Health Sciences and director of the McKechnie Family LIFE Home, said the facility not only provides a unique opportunity to explore interdisciplinary research, industry engagement, community participation, and international collaboration, but also gives critical support to the University of Illinois Urbana-Champaign Vision Statement.



# LIVING IN INTERACTIVE FUTURE ENVIRONMENTS

“One of the key components of the vision statement is, ‘We will have impact locally, nationally, and globally through transformational learning experiences and groundbreaking scholarship,’” she said. “The McKechnie Family LIFE Home provides the infrastructure that we need to radically advance the design of and access to technologies that will support us, our families, and future generations.”

Rogers has long been interested in relationships among health, aging, and technology. Before joining the faculty of the College of Applied Health Sciences, she pursued her research as a professor of psychology at the Georgia Institute of Technology, where she was the director of the Human Factors and Aging Laboratory, a principal investigator in the NIH-funded Center for Research and Education on Aging and Technology Enhancement, and co-director of the Rehabilitation Engineering Research Center on Technologies to Support Successful Aging with a Disability. It is also where she worked with her husband, Arthur “Dan” Fisk, who coordinated and grew the Engineering Psychology program at Georgia Tech for more than 20 years.

Fisk has had a long-standing commitment to harnessing science that advances design to enhance quality of life. His belief in the mission of the McKechnie Family LIFE Home led him to name the Arthur D. Fisk Interview Room in honor of four generations of Arthur D. Fisks—his father Art, himself, his son Danny, and his grandson Daniel. He also established the Rogers Family LIFE Home Research Fund to support the facility’s research activities. “One of Wendy’s goals is to provide more quality to the extra years that medical science has given us,” he said. “I’m so pleased to help her with that mission.”



THE HOME PROVIDES THE  
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**WENDY ROGERS**

Shahid and Ann Carlson Khan Professor in the  
College of Applied Health Sciences and director of  
the McKechnie Family LIFE Home



**Harshal Mahajan**  
Assistant director of research

**Wendy Rogers**  
Director, McKechnie Family LIFE Home

# BLUEPRINT TO REALITY

## LONGTIME SUPPORTERS OF AHS TAKE LIFE HOME FROM BLUEPRINT TO REALITY

The primary benefactors of the McKechnie Family LIFE Home, Dr. James K. and Karen S. McKechnie, are alumni of the University of Illinois Urbana-Champaign. He completed his undergraduate degree in chemistry, while she graduated from the College of Physical Education, the forerunner to the College of Applied Health Sciences. Dr. McKechnie retired from orthopedic surgery practices in Champaign and Mattoon that Mrs. McKechnie managed.

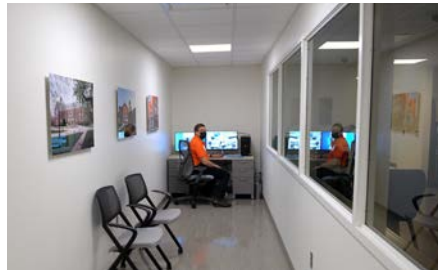
Members of both the President's Council and the Chancellor's Circle, the McKechnies previously endowed the James K. and Karen S. McKechnie Professorship in Applied Health Sciences and the James K. and Karen S. McKechnie Fellowships in Applied Health Sciences, which are awarded to students in the master's degree program in health technology. They also named the James K. and Karen S. McKechnie Laboratory in Huff Hall, and have been generous supporters of the College of Liberal Arts and Sciences and Fighting Illini Athletics.

In addition to being deeply committed to giving back, Dr. and Mrs. McKechnie are keenly interested in physical activity and healthy aging. "Sensory deficits, neurological deficits, physical incapacities—they all contribute to making life harder," Dr. McKechnie said. "What this home is going to do is to give us the opportunity to observe what's happening [with assistive technology], and to refine what's happening before it's distributed more widely, so that we get to the best possible end result."

The goal, Dr. McKechnie added, is to stay as healthy and strong and independent as possible for as long as possible. "Our whole family is pleased to sponsor this laboratory where the work of scientists and researchers can lead to genuine help to overcome the hurdles we face and our limitations in life," he concluded.



Karen and Dr. James McKechnie



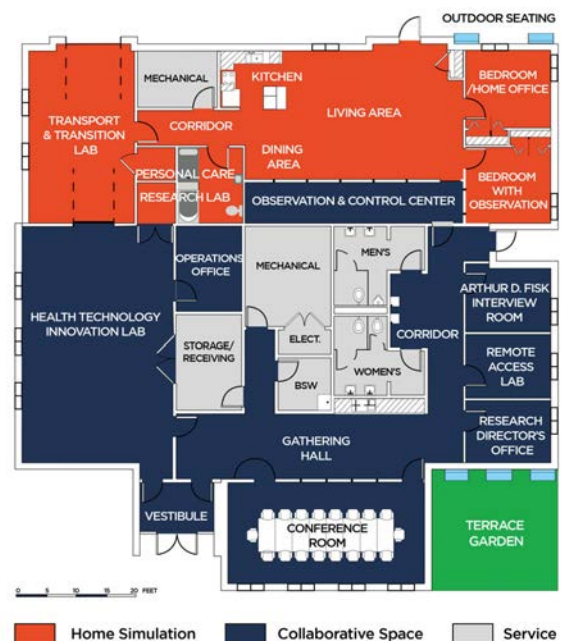
# VISION

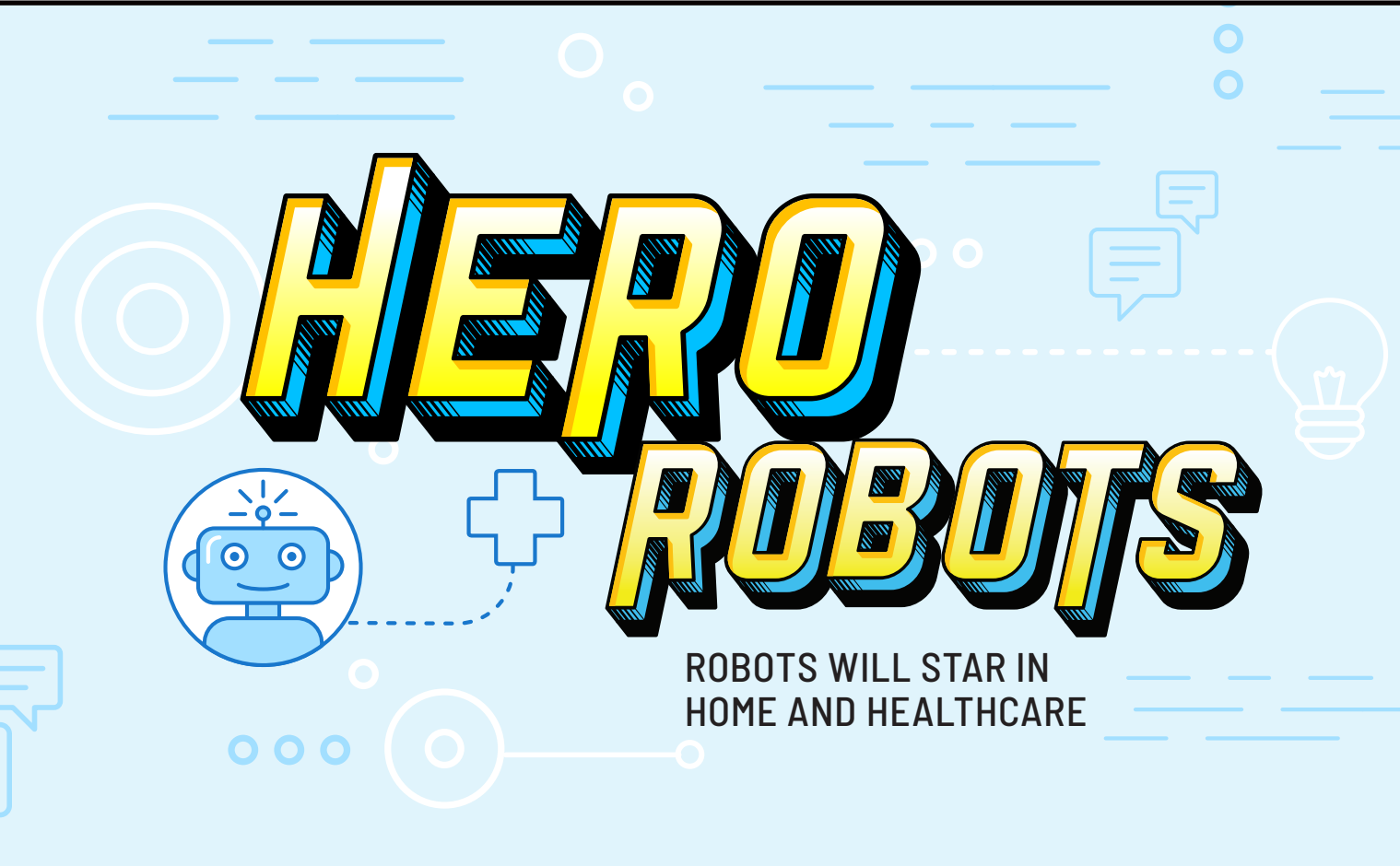
We envision a world where we are Living in Interactive Future Environments and technology supports our quality of life at home.

# MISSION

Our mission is to provide the infrastructure to support interdisciplinary research, industry collaborations, community partnerships, and educational opportunities that will advance the science, engineering, and translation of innovations to support independent living, healthcare needs, social interaction, and everyday activities in the home.

# FLOORPLAN





# HERO ROBOTS

ROBOTS WILL STAR IN  
HOME AND HEALTHCARE

## 2021 MCCRISTAL SCHOLAR WENDY ROGERS SAYS ROBOTS HAVE HUGE POTENTIAL FOR IMPACT IN BOTH ARENAS, AND BEYOND.

When Wendy Rogers came to the University of Illinois Urbana-Champaign from the Georgia Institute of Technology in January 2017, she brought with her a vision of a multidisciplinary research facility that would enable campus and visiting scholars, industry researchers, and community members to explore and develop technologies to enhance the quality of life in a home-like setting.

Last October, her vision was realized with the dedication of the McKechnie Family LIFE Home (see related story, page 8). One of the main thrusts of research within the facility examines the role that robots can play in keeping people healthy, socially connected, and safe, all within the comfort of their own homes.

A Shahid and Ann Carlson Khan Professor in the College of Applied Health Sciences, Rogers was named the 2021 King McCristal Distinguished Scholar, the highest honor the college bestows on faculty, and presented the McCristal Lecture during the Fall College Meeting in August.

As a scholar in the area of human factors, Rogers' interest in robots focuses on the robot-human interaction. "What are people's needs for technology support? How do you introduce the technology to them? How do you provide instructional support? How do you understand usability challenges?" she said. "These and questions related to technology acceptance are some of the issues I address in my own research."

Her research on robots began in 2010 at Georgia Tech, where she was a professor in the School of Psychology and a principal investigator in the NIH-funded Center for Research and Education on Aging and Technology Enhancement. She and colleague Charlie Kemp, director of the Healthcare Robotics Lab at Georgia Tech, were chosen to receive a research robot made by Willow Garage called PR-2 because theirs was the only research group addressing human-robot interaction, with a focus on older adults. PR-2 was large, a little loud, and rather expensive, but older adults loved it.

Kemp went on to found Hello Robot with Aaron Edsinger, former robotics director at Google. Rogers and her colleagues are now working with Stretch, developed by Hello Robot to assist with everyday tasks. “As we age, balance can become an issue,” she said. “Bending over to pick up dropped keys can lead to a fall. Stretch can reduce the risk of a fall by retrieving objects.”

Identifying just what a robot like Stretch can do in the home is part of a research project going on in the McKechnie Family LIFE Home that is funded by the National Institutes of Health. Last fall, Rogers invited students to develop creative and quality-of-life-enhancing uses for Stretch for a competition sponsored by the TechSAGE Center—which is funded by the National Institute on Disability, Independent Living, and Rehabilitation Research—Hello Robot, and Procter and Gamble.

In another line of research, she is collaborating with Girish Krishnan, professor in the Grainger College of Engineering, and OSF Healthcare physician Dr. Robert Riech on an investigation of soft robots in telehealth applications such as post-surgical wound care. “It might be difficult to get someone to a rural location to do a five-minute wound check every day for six weeks,” Rogers said. “A healthcare provider could check the wound from wherever he or she is located with the help of a robot that resides in the home with the patient for six weeks.”



WE NEED TO THINK ABOUT  
THE MAIN USER, CAREGIVERS,  
AND ROBOTICISTS. ALL OF  
THEM HAVE DIFFERENT NEEDS  
AND PERSPECTIVES.



The prototype telehealth robot designed by Krishnan has a soft and dexterous arm and is pneumatically controlled with air pressure, making it more flexible and less likely to cause injury. While he focuses on developing the technology, Wendy Rogers will examine how to build trust in the robots among people who may have them in their homes. She believes the key to acceptance is understanding. “Like anything unfamiliar, you become more open to it if you see how it works and understand more about it,” she said. “That’s my goal in terms of providing instructions and demonstrations.”

Yet another study currently underway in the McKechnie Family LIFE Home focuses on using robots to assist people who are blind to navigate unfamiliar places. On the technology side, Katie Driggs-Campbell, professor in the Grainger College of Engineering, is exploring how to program a robot to map a new space, and how to facilitate communication between the robot and the user. On the human factors side, Rogers’ team is interviewing people who are blind to understand how they currently navigate unfamiliar spaces and how they envision a robot helping them.

Whether one is designing assistive robots that help around the house, social engagement robots that can carry on a conversation, telehealth robots that assist with medical care, or wayfinding robots that guide people through new spaces, it is important to take a systems approach, Rogers says.

“We need to think about all of the stakeholders—the main user, caregivers, and roboticists. All of them have different needs and perspectives. We also need to think about the task being performed and the context for the task. We have made huge advancements in the last decade, but there’s still a lot more to be done.”

And, she added, the McKechnie Family LIFE Home is just the place to do it.

# ENGAGING TO LEARN



Vincent Lara-Cinisomo,  
*Media Relations/Editorial Specialist, College of Applied Health Sciences*

## RST ALUM CARMEN ROSSI'S GIFT WILL HELP STUDENTS GET BEHIND-THE-SCENES LOOK AT LEISURE INDUSTRY HOTSPOTS

Managing partner of City Lake Law, entrepreneurial founder of 8 Hospitality Group, and University of Illinois Urbana-Champaign graduate Carmen Rossi has long been a believer in the importance of philanthropy.

Rossi, who earned undergraduate degrees in English and political science and a master's degree in recreation, sport and tourism at Illinois, is a longtime supporter of charitable organizations in the Chicago area through Chicago Knight Life, a company he founded in 2014 to involve his hospitality businesses with such local organizations as Little Black Pearl, Asian Youth Services, and Sarah's Circle. For him, giving back is not an option or a preference; it's a daily commitment. "I live in the community, and the community has been amazing," Rossi said. "There are so many awesome organizations that directly serve the community, whether it's providing children's services or education or human support."

Self-described as a "people pleaser," Rossi wanted to learn more about these organizations and get involved. But he also wanted to share his love of giving with others. "So I put up sign-up sheets at my business and said, 'Hey, I'm going to show up here at this time, and if you want to as well, great,'" he said, "and those sign-up sheets were never empty, every single day."



CARMEN ROSSI



THE BEST WAY TO LEARN IS TO ENGAGE. RST DISCIPLINES ARE VERY HANDS-ON, AND PRACTICAL APPLICATIONS—SHOWING UP, GETTING INVOLVED, TRYING IT OUT—WILL BEST SERVE YOU FOR SUCCESS.

CARMEN ROSSI

In 2016, Rossi established the Chicago Knight Life Charities Scholarship for recreation, sport and tourism undergraduates at Illinois in recognition of outstanding academic ability, entrepreneurial drive and spirit, community involvement, and promise as a future RST professional. Last December, Rossi made a substantial gift to the RST 180 Domestic Site Tour Fund in the College of Applied Health Sciences, donating \$250,000 over a five-year period to provide financial support for the RST 180 Hall of Fame Adventure course. The course culminates in a two-week tour of high-profile RST destinations such as Niagara Falls and the National Baseball Hall of Fame, where students get behind-the-scenes looks at the facilities' forms and functions from executives with the organizations, many of whom are RST alumni.

The course is the brainchild of Michael Raycraft, clinical professor of recreation, sport and tourism. He says Rossi's gift will be used in part to help students meet the costs of taking the course, which entails a fee of about \$2000 to cover the travel, hotel, and meal expenses of the trip. Students enrolled in the 2022 offering of the course, which begins in April, will be the first cohort eligible to apply for funding.

"We want to make the course open and available to all undergraduates," Raycraft said. "The class typically enrolls mostly first- and second-year students, who may not yet understand how interrelated recreation, sport, and tourism are. This gives us a chance to show them those relationships early in their academic careers through real-world examples."

Rossi heartily endorses the "boots on the ground," applied learning that RST 180 offers, which is why he enthusiastically embraced the opportunity to support it. "The best way to learn is to engage," he said. "RST disciplines are very hands-on, and practical applications—showing up, getting involved, trying it out—will best serve you for success." A field trip gets students into the thick of things, he added, experiencing what they discussed in the classroom and seeing it in action.

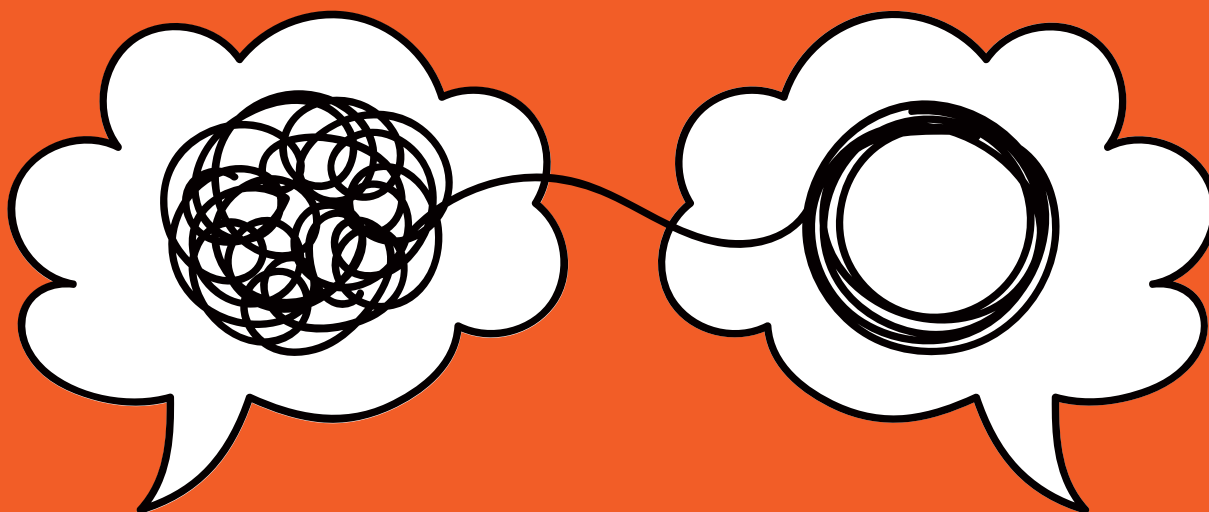
"I'm excited to see where this goes, and I'm not hardly done," Rossi said. "As long as the RST and AHS family and community will have me, I'm committed to staying involved and excited to see where our journey together will go next."

## SUPPORTING STUDENT LEARNING

If you would like to support RST students in having an immersive, once-in-a-lifetime opportunity to explore high-profile RST destinations, apply classroom learning, and network with working RST professionals, please consider a donation to the RST 180 Domestic Site Tour Fund or the RST 180 Travel Scholarship Fund. The Domestic Site Tour Fund is a more flexible fund, allowing RST to apply the funds toward the overall cost to the department of offering the RST 180 course as well as toward student scholarships.

Donations to the Travel Scholarship Fund will be used solely to help students pay the course fee. More information can be found and donations can be made at the College of Applied Health Sciences website or by contacting the AHS Office of Advancement.

-  [AHS.ILLINOIS.EDU/GIVE](https://AHS.ILLINOIS.EDU/GIVE)
-  [ADVANCEMENT@AHS.ILLINOIS.EDU](mailto:ADVANCEMENT@AHS.ILLINOIS.EDU)
-  217.333.2131



# THE NEUROSCIENCE OF COMMUNICATION

## UNDERGRADUATE STUDENTS IN SPEECH AND HEARING SCIENCE CAN FOCUS THEIR STUDIES ON THE BIOLOGICAL BASIS OF COMMUNICATION

The brain is a complex and fascinating organ that controls every function of the human body, which, when you think of it, is a bit scary. More than 100 billion nerves work together in connections called synapses to regulate everything from movement to breathing to cognitive functions such as problem solving and memory. When something goes wrong with the brain, the consequences can range from annoying to catastrophic.

Neuroscientists study the nervous system, from the cellular to the systems levels, to understand both healthy and diseased neurology. In relation to speech and hearing science, neuroscientists investigate the biological basis of communication in order to understand brain-behavior correlates of typical and disordered speech, language, and hearing function.

**Justin Aronoff**, professor of speech and hearing science and director of undergraduate studies, says that while there are communication disorders that have nothing to do with the brain or with neurons—for example, atresia, the absence of closure of the external auditory ear canal—many disorders are neural in origin. Sensorineural hearing loss, for example, one of the most common forms of hearing loss, is the loss of the entry point into the nervous system for the auditory system. His own neuroscience research focuses on understanding how information from the left and right ears is combined in the brain, which is critical to locating the origin of sounds, and on improving the performance of bilateral cochlear implants.

Aronoff teaches two of the classes required of SHS students who choose the neuroscience of communication concentration for their undergraduate major. The department offers four concentrations, which also include cultural-linguistic diversity, speech-language pathology, and audiology. Aronoff says neuroscience is foundational to clinical practice in both audiology and speech-language pathology.



“Because so many clinical diagnoses are neural-based at one level or another, neuroscience plays a huge role in clinical practice,” he said. “Clinicians need to be able to understand and be conversant in what’s at the core of diagnosis.”

SHS senior **Elysse Trevino** would seem to agree with Aronoff’s assessment. She is planning a career as a speech-language pathologist in a neonatal intensive care unit, and chose the neuroscience concentration as her path to her profession. “My background in neuroscience will allow me to have a deeper understanding of communication disorders, and speech and language in general, especially in a setting where my clients will not be able to communicate what is wrong,” she said.

Before the pandemic, Trevino was active in the campus-wide Undergraduate Neuroscience Society and is looking forward to exploring her interest further outside of the classroom as opportunities continue to arise. In the classroom, she has found the neuroscience courses in SHS to be interesting and challenging.

SHS senior **Diana Morales** not only found the neuroscience classes interesting, but also felt “happier, more attentive, and passionate” in her neuroscience classes. She chose the concentration because she was not interested in becoming a clinician. “I didn’t come into SHS thinking I’d go into neuroscience, but the scientific foundation of communication was what interested me most,” she said.

In her sophomore year, Morales successfully applied to the College of Applied Health Sciences’ Student Aging Researchers in Training program. She was paired with Susan Aguiñaga, professor of kinesiology and community health, and fell in love with doing research. She plans to pursue a Ph.D. in kinesiology and community health before embarking upon a career in academia doing research on minority populations. “I plan to take all of the scientific concepts I’ve been learning in SHS and apply them to exploring things like cognitive health and executive functioning in minority communities,” Morales said. “My goals are to make sure that the voices of low-income Latinx populations are represented in research, and to decrease the amount of mistrust these populations have in science.”

These students exemplify the whole point of the concentrations, said SHS’ Justin Aronoff. “The goal of the concentrations is to allow students to get more background in an area of specific interest to them,” he said. “It allows them to customize their education.”

Most students in the neuroscience concentration are aspiring clinicians, he noted, but all students in the concentration are fascinated by the brain and how it works. “It’s just a different focus than the ones offered by the traditional audiology or speech-language pathology routes,” he said. “One of the challenges is helping students to appreciate that you don’t need to go into the traditional concentrations to have careers in those fields.”

SHS junior **Paulina Renteria**’s future may hold careers in both speech-language pathology and medicine or academia. She chose the neuroscience concentration because of the flexibility it offered her. “My interest in neuroscience can be applied not only to clinical practice but also to research-related careers, and it gives me the opportunity to branch out,” she said.



THE GOAL OF THE CONCENTRATIONS IS TO  
ALLOW STUDENTS TO GET MORE BACKGROUND  
IN AN AREA OF SPECIFIC INTEREST TO THEM.  
IT ALLOWS THEM TO CUSTOMIZE THEIR EDUCATION.

JUSTIN ARONOFF

professor of speech and hearing science and director of undergraduate studies



DIANA MORALES



PAULINA RENTERIA



ELYSSE TREVINO



JUSTIN ARONOFF

Renteria believes her coursework in neuroscience will prepare her well for future schooling, no matter which field she chooses to enter. She thinks it is vital to understanding the complex diagnostic and research issues on which she will collaborate with other speech-language pathologists and with those who study the structure and function of the brain.

Neuroscience runs deep in the field of speech and hearing science, Justin Aronoff concluded. “It plays a huge role in diagnosis, a huge role in intervention, and a huge role in the research that underlies clinical practice,” he said. “You can see all the different aspects of neuroscience playing into our understanding and our treatment of hearing loss and speech disorders. It cuts across the field.”

Although the neuroscience of communication concentration for undergraduates is a fairly recent development, Justin Aronoff, professor of speech and hearing science and director of undergraduate studies, said that one example of neuroscience research in the department of speech and hearing science dates back to Robert Bilger, who joined the Illinois faculty in 1977. He took an interdisciplinary approach to investigating how humans hear complex sounds, including speech, and produced the first detailed evaluation of the efficacy of cochlear implants. Aronoff said cochlear implants moved neuroscience to the forefront of the field, and he continues research in that area in the Binaural Hearing Lab.

#### HE IS JOINED IN PURSUING INTERESTS IN NEUROSCIENCE BY SPEECH AND HEARING SCIENCE COLLEAGUES:

**Ron Chambers**, who studies stimulus detection, neuro-diagnostics, and auditory processing through auditory evoked responses that are generated from the cochlea to the cortex. He directs the Auditory Electrophysiology Lab.

**Fatima Husain**, director of the Cognitive Neuroscience Lab, who investigates hearing and speech perception as well as the disorders associated with them, such as hearing loss and tinnitus, using magnetic resonance imaging.

**Ian Mertes**, whose research focuses on understanding how the inner ear and brain work together to facilitate hearing in noisy environments, and how permanent hearing loss impacts the inner ear and brain. He directs the Hearing Research Lab.

**Brian Monson**, director of the Auditory Neuro Experience Lab, who focuses on the development of the human auditory brain over the course of both the individual and species lifetime, and on how experience with the acoustic environment shapes the auditory brain and affects perceptual capabilities.

**Raksha Mudar**, director of the Aging and Neurocognition Lab, who investigates the effects of neurodegenerative disorders on higher-order cognitive functions and examines the effects of strategy-based cognitive training in individuals with neurodegenerative disorders.

FOR MORE INFO ON THE NEUROSCIENCE OF COMMUNICATION CONCENTRATION,  
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## DECORATED NAVY OFFICER SHARES HISTORY OF VETERANS DAY

After last year's event on Zoom, the Chez Veterans Center's annual Veterans Day observance was once again an in-person event this year, taking place on November 11 at the Center. Keynote speaker David Casteel, currently the commanding officer of the Navy ROTC at the University of Illinois Urbana-Champaign, shared the interesting history of Veterans Day, which began as a day of remembrance in England in 1920, the year after the Treaty of Versailles was signed to end World War I.

In the United States, Congress designated November 11 as a day of observance in 1926, and it became a federal holiday as Armistice Day in 1938. In 1954, Congress changed the name to Veterans Day to honor service members of all conflicts.

Casteel thanked veterans in the audience as well as current service members. "We proudly give this day to you all," he said.

Casteel served with the "Jolly Rogers" of Fighter Squadron 103 on two deployments aboard the USS George Washington and the USS John F. Kennedy. He participated in Operations Southern Watch, Enduring Freedom, and Iraqi Freedom. His personal decorations include the Legion of Merit, Defense Meritorious Service Medal, Meritorious Service Medal, Strike/Flight Air Medal, Navy Commendation Medal, and Navy Achievement Medal, along with several unit, campaign, and service awards.



**ON THE  
11TH HOUR OF THE 11TH DAY OF THE 11TH MONTH,  
THE GUNS GO SILENT FOR THE FIRST TIME IN AGES.**

**ALL OF THE MEN KNOW WHAT THAT SILENCE MEANS,  
BUT NOBODY SHOUTS OR THROWS THEIR HATS IN THE AIR.  
INSTEAD, THEY JUST LISTEN.**

**THEY HEAR WATER DRIPPING DOWN INTO THE FOXHOLES,  
AND THE WIND BLOWING OVER THE TOPS OF THE RIDGES.  
IT TAKES HOURS FOR THEM TO REALIZE WHAT HAD OCCURRED  
THAT THE GREAT WAR, THE WORLD WAR, WAS OVER.**

**THIS IS THE DAY THEY'LL REMEMBER FOR ALL TIME.  
THE DAY THEY COULD BREATHE AGAIN.**

**THE DAY THEY COULD HOPE AGAIN.  
NOVEMBER 11, THE DAY OF NO MORE DEATH.**

**THEY WILL REMEMBER WHAT THEY WERE DOING  
AT THAT MOMENT FOR THE REST OF THEIR LIVES.**

**CAPTAIN CASTEEL**  
EXPLAINING WHY NOVEMBER 11 WAS CHOSEN FOR VETERANS DAY



# DUMPING DOPE.

TAKING DRUGS  
OUT OF SPORTS

## RST PROFESSOR JULIAN WOOLF IS WORKING TO DEVELOP EFFECTIVE ANTI-DOPING EDUCATION.

At the 22-mile mark of the 1904 Summer Olympic marathon in St. Louis, runner Tom Hicks' coach gave him a mixture of brandy, egg white, and strychnine to help him make the final push. Hicks did win a medal, but reportedly had to be revived after the race by four physicians. It was the first documented case of the use of performance-enhancing drugs among Olympic athletes, but certainly hasn't been the last. The successes of track stars Ben Johnson and Marion Jones as well as athletes competing for East Germany and Russia have all been tarnished and in some cases overturned by allegations of doping.

The Olympics aren't the only competitive athletic events to be tainted by reports of doping, however, as evidenced by scandals involving cyclist Lance Armstrong and major league baseball players Barry Bonds and Alex Rodriguez. Additionally, elite athletes are not the only users of PEDs, which can also be found in youth sports and recreational athletics.

Determining the full scope of the problem is difficult, said Julian Woolf, professor of recreation, sport and tourism. "We can't test and detect everyone who dopes," he said, "and some sports have higher prevalence rates than others." There are a plethora of PEDs available to athletes, and not all are easy to detect. Finally, some substances are only prohibited during competition, while others are prohibited at all times. "These factors make it challenging to provide one prevalence rate of doping in sport," he said.

To complicate matters further, doping is a taboo subject, throwing into question the extent to which athletes will be open and honest about their use of banned substances. What isn't in question is that the problem exists. Some of the concern about PEDs such as anabolic steroids focuses on the issues of fairness and sportsmanship, but athletes who use these drugs also can experience long-term side effects.

"Research is showing that steroids affect cognitive abilities such as memory, and they can cause serious damage to physical and mental health," Woolf said. "As we see increased use at all levels of sport and recreation, it becomes a much greater public health problem."



Sports such as weightlifting, which relies primarily on strength, may have a greater prevalence of doping, but athletes take drugs for a variety of reasons. “Some drugs are designed to make athletes stronger, while others help with their endurance,” he said. “Some drugs can help with steadying nerves so that athletes can concentrate better.”

Each year, the World Anti-Doping Agency releases a list of substances and methods that are banned. It does its best to inform athletes about what is and is not allowed, but ultimately, it is the athletes’ responsibility to ensure that they are not taking anything on the prohibited list. WADA takes the position that rather than through testing, an athlete’s first exposure to doping should be through prevention in the form of evidence-based anti-doping education.

It is on this area that Woolf has focused his recent research. His first goal is to understand how athletes learn about PEDs, what they know about them, and what influences them either to use or reject them. In May 2021, he published an article in *Performance Enhancement and Health* that examined these issues in relation to mixed martial arts, which has become a mainstream sport.

He found that MMA fighters learn about PEDs through internet research, official sources such as the Ultimate Fighting Championship, trusted professionals such as nutritionists and strength coaches, and training partners. Knowledge about PEDs was often poor and inaccurate, and their use was rationalized as necessary for aiding recovery, enhancing performance, and replenishing hormones that “get used up” in training. Most of the fighters interviewed for the study did not report current use of PEDs, and disparaged their use as a sign of weakness.

“The mental fortitude to deal with the physical grind and psychological stress of MMA was highly valued,” Woolf and his co-authors wrote. “PED was thought to circumvent this aspect of the game.” In fact, he has found in his research that athletes generally would prefer that PEDs were not a factor in sport, even among elite athletes who have admitted to using the substances. “A large percentage of athletes do not use and do not want to use and do not want to be in a sport where others are using,” he said.

## CREATING A CLEAN SPORT ETHOS

Woolf is continuing his efforts to understand athletes’ use of PEDs through a collaboration with the Caribbean Regional Anti-Doping Organization, which turned to him for help in managing anti-doping efforts across multiple countries. First, he is interviewing young athletes across the region to find out how they talk about banned substances to confidants. He’ll then investigate how much the athletes know about PEDs, what their sources of influence are, and how those sources affect their use of banned substances. His ultimate goal is to apply the findings of these and previous studies to developing an effective anti-doping educational program.

“In an anti-doping context, we want athletes to know the rules, their rights, and their responsibilities,” he said. The more challenging aspect of anti-doping education is teaching values that encourage the adoption of a clean sports ethos. “One way to impact values is to start early, and WADA has begun that process by providing educational materials that focus on fairness, fair play, and sportsmanship to teachers of young children,” he said. “But when you talk about older athletes, influencing values is a much harder process.”

Woolf has reviewed existing anti-doping educational programs and found their efficacy to be poor. He believes this is due in part to the fact that their design has not been informed by principles from education and related disciplines and lacked alignment between the desired learning outcomes, the program’s educational activities, and the assessment of outcomes. He has been studying the ways in which people learn, and plans to bring that knowledge to bear on his own program development.





## BETTER HEARING through COLLABORATION



Fatima Husain, professor of speech and hearing science, studies auditory, speech, and language processing. For the past 15 years, she has focused her work on tinnitus, which is typically accompanied by hearing loss. Jonathan Peelle, professor of otolaryngology at Washington University in St. Louis, conducts research on the neurobiology and psychology of speech comprehension. Neuroscientist Amber Leaver of the Feinberg School of Medicine at Northwestern University investigates and works to improve brain stimulation therapies for chronic tinnitus, depression, and other conditions.

All three researchers use brain imaging in their work. Doing brain scans with magnetic resonance imaging is not an insignificant undertaking. First of all, with costs of using MRI scanners running from \$500 to \$750 an hour, they are expensive data sets to collect. Additionally, brain scans require a significant commitment of time from research subjects, and scheduling scans for experimental and control subject groups for any given study can be daunting. On top of that, comprehensive audiological assessments and behavioral data must be collected on each subject in order to make sense of the brain scans.

Understandably, then, individual researchers pursuing their own studies in their own labs frequently publish studies with small numbers of subjects, what Fatima Husain refers to as “underpowered” studies. “If you do a small study on 10 patients and 20 controls, you cannot make strong claims in your paper because these are such small sample sizes,” she said. “Having an N of 1000 buys you so much more in terms of power, in terms of what questions you can ask and answer. So what can we do?”

From this thinking was born the Hearing Health Institute. Directed by Husain, the institute is initially getting off the ground with a \$125,000 seed grant from the Discovery Partners Institute, a University of Illinois system-wide initiative to train people for technology jobs, fund technology research and development, and nurture technology businesses in the Chicago area.



## The idea is to throw everything together and see what we get.

The idea is to consolidate expensive brain imaging data as well as the accompanying detailed clinical data from multiple labs into a central database that would allow researchers to explore changes in the brain over time in both normal and disordered hearing. Collaborating with Peelle and Leaver has already given the institute access to 450 sets of data, and the goal is to sign on additional collaborators to reach the goal of 1000 data sets.

“The idea is to throw everything together and see what we get,” Husain said. “A lot of hearing disorders are very interlinked, and that’s something that can emerge from the mixing and matching of data.” So while all of the data will focus on hearing, researchers may access it to study hearing and aging, or hearing and cognition, or tinnitus, or hyperacusis. “It will be up to researchers around the world to ask questions that I haven’t dreamt of asking,” she said.

While she’d been thinking about developing such a database for a few years, Husain said the COVID-19 pandemic spurred her into action. “I started to think about what will happen to my data if I’m no longer active, for whatever reason—it would disappear with me,” she said. “We went to such heroic levels to collect it; it took so much effort. It should be available so that others don’t have to spend \$500 or \$750 an hour to acquire a dataset to pursue their own ideas. Why should we not mine it?”

The first challenge for Husain and her collaborators will be to determine how to combine very complicated data sets that were collected in different scanners in different manners, and with different subgroups of patients. It’s not a trivial issue, but if they can feasibly meet this challenge, it will open up possibilities for research on other disorders that involve brain imaging, which are similarly underfunded and often underpowered, such as schizophrenia or migraine headaches.

The Discovery Partners Institute grant will fund proof-of-concept analyses to demonstrate that it not only is possible to create such a database but also to produce more generalizable results than small subject numbers allow.

Husain compares her effort with the National Institutes of Health’s Human Connectome project, which is amassing imaging data from healthy adults to map the brain’s complete structural and functional neural connections. “We’re developing a disease connectome,” she said. Her hope is that if she and her collaborators are able to show success with their seed grant, they can pursue funding that will make the Hearing Health Institute sustainable. The ultimate goal is to amplify all of the small innovations that are taking place in individual labs and accelerate their translation into clinical outcomes and early intervention.



Fatima Husain’s presentation took place during the AHS Fall Lecture Series, launched last fall by the college’s Office of Advancement to highlight outstanding teaching, research, and outreach activities of the college through virtual presentations. In 2021, presentations also addressed the impact of Chicago’s Large Lot Program on neighborhood and individual well-being, aging’s impacts on skeletal muscle and cognition, and lessons learned from COVID about supporting students with disabilities, and featured scholars, students, and staff from the departments of kinesiology and community health; speech and hearing science; and recreation, sport and tourism; as well as the Division of Disability Resources and Educational Services.

AHS Board of Visitors member Peter Korst, who completed bachelor’s and master’s degrees in AHS, was one of many alumni around the country who tuned in to the presentations. He said the series exemplified the college’s commitment to addressing important social issues. “Research drives innovation and breakthrough thinking,” he said. “Not only was the Fall Lecture Series educational, but it also illustrated how Illinois strives to be a leader in improving people’s lives.”



## ILLINOIS WELL REPRESENTED AT TOKYO PARALYMPICS

Vincent Lara-Cinisomo,  
*Media Relations/Editorial Specialist, College of Applied Health Sciences*

### MORE THAN TWO DOZEN ILLINOIS-AFFILIATED ATHLETES COMPETED FOR THE UNITED STATES AND OTHER COUNTRIES

The University of Illinois Urbana-Champaign's robust adaptive athletics program was on full display at the 2020 Paralympics in Tokyo, delayed until August 2021 because of the COVID-19 pandemic. Twenty athletes with ties to the University of Illinois Urbana-Champaign were among the Team USA competitors in Tokyo. Another seven Illinois-affiliated Paralympians competed for other countries at the games.

Team USA won a total of 104 medals at the games, including 37 gold. Athletes who train at the University of Illinois contributed 11 individual medals, and the men's and women's wheelchair basketball teams also took home medals.

Team USA stalwart and Illinois alumna Tatyana McFadden won three medals, including a gold in the 4x100 relay. It was her eighth gold medal and 20th medal overall in her fifth Paralympic Games. "It's been really amazing and I wouldn't want to do it with any other team," McFadden told Paralympic.org after the relay win. "It's a really special team. We've got such a bond. It is something that I will always remember. I will keep it in my heart."

McFadden's Illinois track and field teammate Raymond Martin won three medals in Tokyo, including gold in the 100-meter T52. In addition to McFadden and Martin, Illini athletes Susannah Scaroni (gold in 5,000-meter T54, bronze in 800-meter T54), Daniel Romanchuk (gold, 400-meter, bronze, men's marathon T54), and Alexa Halko (bronze, 800-meter T34) also took home hardware.



In team sports, the men’s wheelchair basketball team defended its 2016 Paralympic gold medal, led by Illini Steve Serio, Brian Bell, and Ryan Neiswender. Serio had 28 points in the gold medal game against host Japan. “Japan was the Cinderella story of this tournament, but you couldn’t ask for a more storybook ending for us,” Serio said. “We didn’t get the start we wanted, but we definitely got the finish we wanted.”

After the game, Serio said the Tokyo games may be his last. “I can’t think of a better exclamation point on an incredible journey,” he said. “I definitely want to continue in the Paralympic movement, but the impact I can have off the court is more important than the impact I can have on it.”

The women’s wheelchair basketball team—which included Illini Ali Ibanez and Kaitlyn Eaton—earned a bronze medal after edging Germany.

THE NEXT PARALYMPIC GAMES TAKE PLACE IN PARIS IN 2024

ILLINI PARALYMPIANS ON TEAM USA

TRACK AND FIELD

Hannah Dederick  
Jenna Fesemyer  
Alexa Halko  
Yen Hoang  
Eva Houston  
Kelsey LeFevour  
Ray Martin

Chelsea McClammer  
Tatyana McFadden  
Amanda McCrory  
Aaron Pike  
Isaiah Rigo  
Daniel Romanchuk  
Susannah Scaroni  
Brian Siemann

MEN’S BASKETBALL

Brian Bell  
Ryan Neiswender  
Steve Serio

WOMEN’S BASKETBALL

Kaitlyn Eaton  
Ali Ibanez

ILLINI PARALYMPIANS WHO REPRESENTED OTHER COUNTRIES

AUSTRALIA

Dylan Alcott (men’s tennis)

CANADA

Kady Dandeneau (women’s basketball)  
Patrick Anderson (men’s basketball)  
Nik Goncin (men’s basketball)

GERMANY

Edina Mueller (rowing)

GREAT BRITAIN

Helen Freeman (women’s basketball)

JAPAN

Hiroaki Kozai (men’s basketball)



RAYMOND MARTIN

# POINTING

TO BETTER LANGUAGE





## EARLY LANGUAGE DEVELOPMENT IN NEUROGENETIC DISORDERS INVOLVES CLEAR LANGUAGE AND GESTURES

Caregivers' verbal interactions with infants and toddlers play an important role in children's language learning. Research has shown that both the quantity and quality of language used by caregivers impact the development of language skills, and that typically-developing children who are exposed to language that is varied and rich in information are less likely to be at risk of early academic difficulties.

Children who have intellectual disabilities linked to neurogenetic disorders such as Down syndrome and fragile X syndrome are at greater risk for delays in language learning, but Laura Mattie believes high-quality caregiver input can have a positive impact on their development as well.

Mattie, a professor of speech and hearing science, has long been interested in the development of children with neurogenetic disorders. After earning her Ph.D. in education and human development at Colorado State University, she completed two postdoctoral fellowships focused on neurodevelopmental disabilities, at the University of Kansas and the University of South Carolina. Her research has examined the impact of neurogenetic disorders on the development of social and language skills, executive function, adaptive behavior, and triadic eye gaze, an important developmental milestone in which infants are able to shift attention between an object and a communication partner.

Mattie currently is collaborating with SHS colleague Pamela Hadley to investigate how mothers' use of language and gestures impacts language learning in toddlers with Down syndrome and fragile X syndrome, and to develop a clinical approach to promote early word learning for these children.

### TALK DIFFERENTLY, NOT MORE

Down syndrome is the leading genetic cause of intellectual disability, occurring when abnormal cell division results in an extra full or partial copy of chromosome 21. In the majority of cases, the extra copy of chromosome 21 comes from the mother's egg. Fragile X syndrome is the leading inherited cause of intellectual disability, resulting from a mutation in the FMR1 gene which is typically passed from mother to child. While both syndromes are associated with intellectual disabilities, Mattie says there are differences between the groups as well.

"Children with Down syndrome have strengths in understanding language and using such things as gestures, eye gaze, and vocalizations," she said, "but their production of language may be limited by motor-speech issues such as tongue size, which makes speaking harder for them." Children with fragile X syndrome also have stronger comprehension skills than spoken skills, although the deficits are related more to social anxiety rather than motor-speech difficulties. Fragile X syndrome also is one of the only known single gene disorders clearly linked to autism.

There also are differences in the mothers of children with the two syndromes. As carriers of the FMR1 gene mutation, mothers of children with fragile X syndrome may exhibit milder forms of behaviors and



GESTURING HELPS WITH CLARIFYING COMMUNICATION. USED BY THE CHILD, IT HELPS THE MOTHER TO REALIZE THE CHILD IS INTERESTED IN AN OBJECT.

**LAURA MATTIE**  
professor of speech and hearing science

characteristics associated with the disorder. They may be prone to depression and anxiety themselves, and since fragile X is inherited, they may have more than one child with the disorder. Children with Down syndrome tend to be more interested in their social partners, making their partners, including parents, more responsive to them.

"We know that language is part of a transactional learning model, so the back-and-forth between a mother and child is going to shape some of the early language experiences, but they both have to play a role," Mattie said. "So we think about it in terms of what the mother is doing and what the child is doing and how we can use that to support language learning, and specifically word learning." With typically-developing children, conventional wisdom says, "Just talk a lot," a strategy that may not work with children who have developmental delays. So, Mattie says, we need to teach parents to talk differently. Take, for example, a child engaging with a toy, say, a stuffed pig—looking at it, holding it up, pointing to it. The mother may respond by saying, "You have a pig. The pig says oink."

"A neurotypical child may be able to follow that," Mattie said, "but a child with developmental delays may be confused. What is the word? Is it pig? Is it oink? We've given the child too much information." If, on the other hand, the mother responds by pointing at the toy and saying, "You have a pig," she has presented the child with a clear and specific response from which he or she can learn. "Gesturing helps with clarifying communication," Mattie said. "Used by the child, it helps the mother to realize the child is interested in an object. When the mother gestures back with her input, she's making it very clear that she's talking about that same object, and being focused on the same thing is really the key."

### MORE THAN AN INTERESTING QUESTION

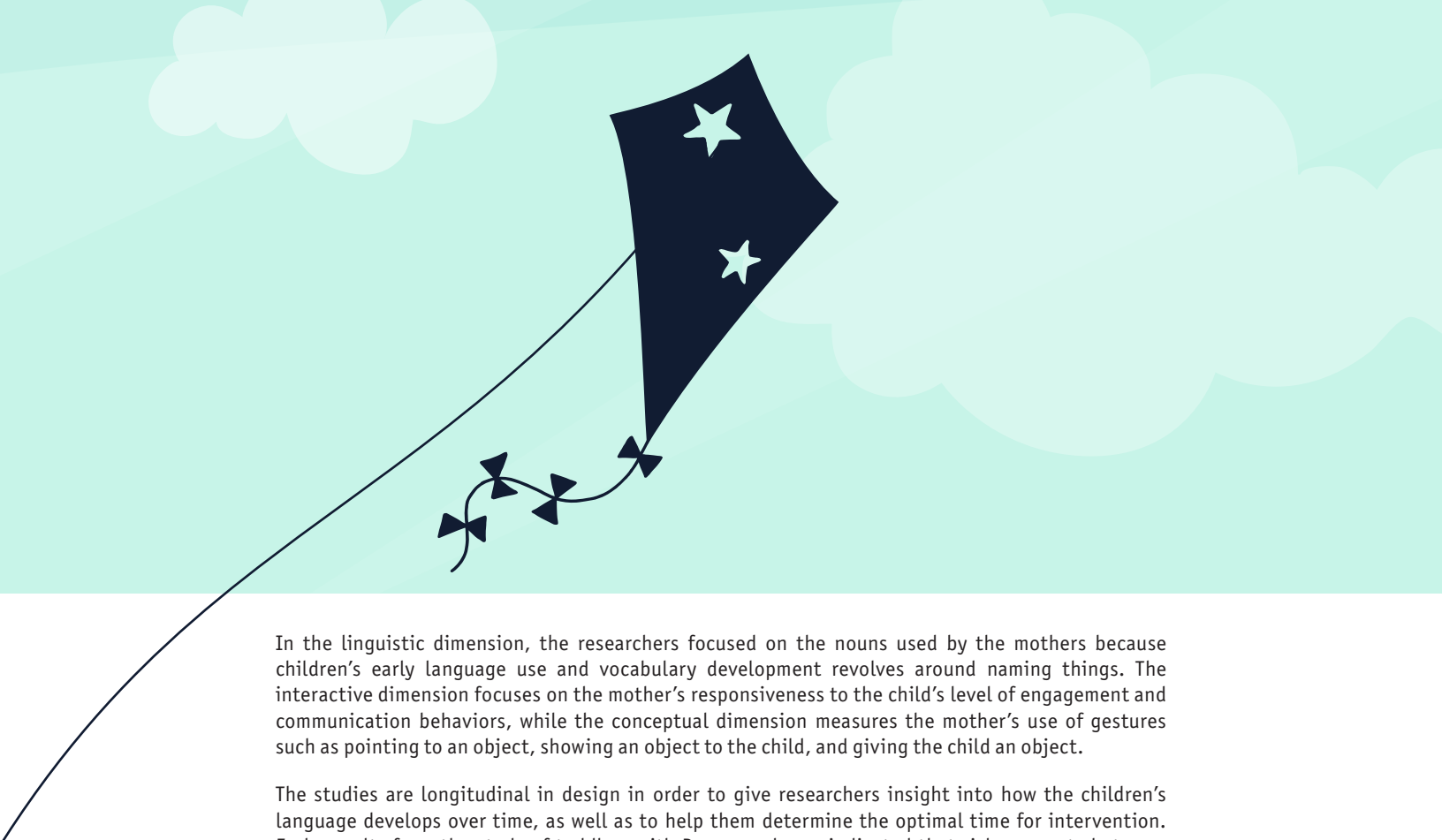
Mattie and Hadley call these occurrences of shared focus, gestures, and words "rich moments." Their goal is to identify the features of high-quality word-referent transparency, where the mother's linguistic input is accompanied by the child's engagement, the mother's responsivity, and the use of gestures. Their studies—one focused on toddlers with Down syndrome and one on toddlers with fragile X syndrome—are the first to use a multi-dimensional coding scheme, designed by the researchers, to characterize the linguistic, interactive, and conceptual dimensions of interactions between mothers and children as they play with toys.



AS MUCH AS OUR RESEARCH IS IMPORTANT, HOW DO WE HELP OUR FAMILIES? YES, WE ARE RESEARCHERS, BUT WE ALSO CARE ABOUT THE COMMUNITY.

**LAURA MATTIE**  
professor of speech and hearing science





In the linguistic dimension, the researchers focused on the nouns used by the mothers because children’s early language use and vocabulary development revolves around naming things. The interactive dimension focuses on the mother’s responsiveness to the child’s level of engagement and communication behaviors, while the conceptual dimension measures the mother’s use of gestures such as pointing to an object, showing an object to the child, and giving the child an object.

The studies are longitudinal in design in order to give researchers insight into how the children’s language develops over time, as well as to help them determine the optimal time for intervention. Early results from the study of toddlers with Down syndrome indicated that rich moments between mothers and children were relatively rare. Nouns accounted for a small percentage of the words used by the mothers during play, and children’s exposure to names for objects was minimal. Mothers also named toys that were not the focus of the child’s attention, thereby missing opportunities for clear and optimal word-referent transparency.

Mattie and Hadley concluded that in order to help parents support the early word learning of children with neurogenetic disorders, their input along all three dimensions—linguistic, interactive, and conceptual—needs to be enriched. Specifically, they said, parents should be coached on recognizing a child’s engagement state, noticing and giving a name to whatever object commands the child’s attention, and combining the name with a gesture. They also may need to be coached on giving children with neurogenetic disorders more time to process the information they are given and to initiate interactions.

Clinicians, the researchers add, can play a vital role in this coaching process, helping parents to notice when their child is focused on an object, to formulate a clear, noun-focused statement about the object that encourages word learning, and to use supporting gestures effectively.

While their work is groundbreaking, especially in relation to fragile X syndrome, about which there is a dearth of research, Mattie stresses that there’s more to what she and Hadley are doing than simply investigating an interesting research question. “As much as our research is important, how do we help our families?” Mattie said. “Yes, we are researchers, but we also care about the community.” A crucial part of their future work, she said, will be developing educational resources for parents of children with neurogenetic disorders and identifying other ways to support families.

LAURA MATTIE





MOVE MORE +  
EAT REAL FOOD

## FOCUSING ON IMPROVING THE QUALITY OF LIFE FOR PATIENTS WITH CHRONIC KIDNEY DISEASE

Ken Wilund, professor of kinesiology and community health, took an interesting path to his current focus on chronic kidney disease. After completing an undergraduate degree in nutritional science and a Ph.D. in kinesiology that examined the effects of exercise on lipid metabolism, he explored the molecular biology of cholesterol metabolism as a postdoctoral research fellow in molecular genetics at the University of Texas Southwestern Medical Center.

When he joined the University of Illinois Urbana-Champaign faculty in 2004, he initially continued his research on lipid metabolism and its relationship to cardiovascular disease, a common co-morbidity in those with chronic kidney disease. People with CKD have high rates of cardiovascular mortality, particularly as they reach end-stage kidney failure and begin the grueling process of dialysis. As Wilund dug more deeply into the experience of dialysis patients, he realized that they have the lowest quality of life of any patient group he had studied. He also became convinced that there were ways to improve their quality of life, and that his background in nutrition and exercise science would lead him to effective solutions.



KEN WILUND

Wilund is the principal investigator in the recently established Kidney Wellness Institute of Illinois, a collaborative virtual institute of researchers, industry, government, and non-government organizations through which he hopes to establish Illinois as a national leader in lifestyle medicine for people with CKD. Funded by Discovery Partners Institute, a University of Illinois System initiative focused in part on applied research and development, the Kidney Wellness Institute of Illinois is investigating nutrition and exercise interventions that improve the health and well-being of people with kidney disease.

### FROM DEATH BED TO THRIVING

In renal failure, patients are unable to produce urine and must have their blood cleansed through dialysis, which Wilund describes as a “brutal” three-day-a-week, four-hours-a-day process of filtering excess fluid and waste from the blood through an external machine. The procedure often leaves patients feeling fatigued and unwell, as the process of drawing off the excess fluid can cause blood pressure to drop quickly, resulting in ischemia to vital organs including the heart as well as muscle cramping. The cramping and drop in blood pressure are often treated with saline infusions, which results in patients’ excessive thirst and overconsumption of liquids that their bodies cannot expel naturally. It is not uncommon, Wilund said, for dialysis patients to gain more than five pounds in excess fluid in the two days off between cycles of dialysis.

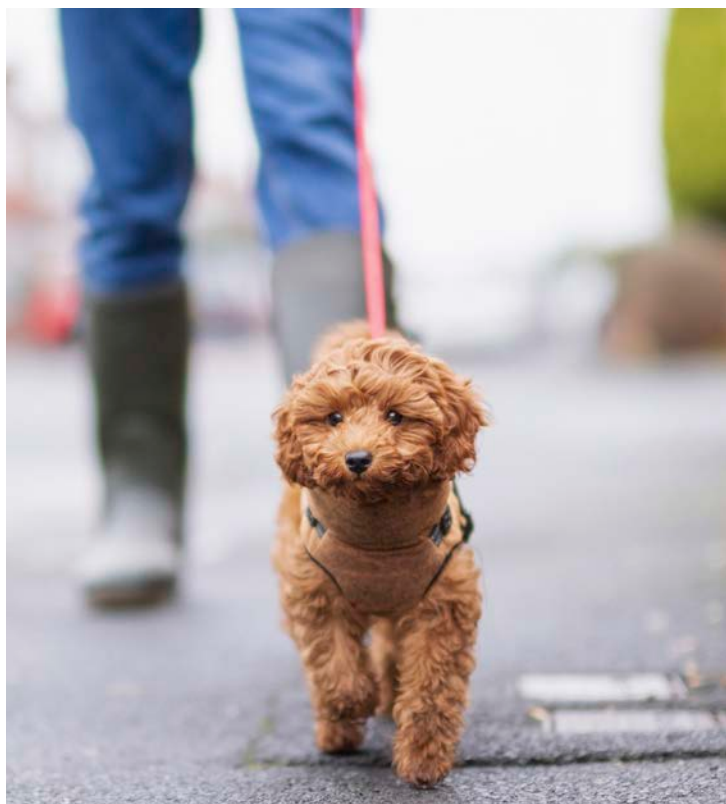
In addition to cardiovascular disease, the progression of chronic kidney disease is typically accompanied by muscle wasting and loss of strength, bone disorders, high levels of inflammation, and cognitive dysfunction. It is perhaps not surprising, then, that people with CKD have extremely low levels of physical activity. Not surprising, but unfortunate, since research has shown that exercise can have a positive impact on both the physical function and quality of life of people with CKD.





LET'S FIND OUT WHAT THEY HAVE ACCESS TO, WHAT THEY LIKE AND DON'T LIKE, AND WHAT THEY'RE ABLE TO DO. CYCLE DURING DIALYSIS, THEN GO HOME AND WALK THE DOG, OR GO SHOPPING. BUT KEEP MOVING.

KEN WILUND



As he reviewed the existing literature on interventions that seemed to improve physical function among dialysis patients, Wilund discovered two things: that the most common intervention was intradialytic cycling, or pedaling a stationary bike during dialysis, and that it didn't appear to be working that well. He wanted to figure out why.

"The studies were small and short-term, and the outcomes weren't that robust," he said. "Putting a bike in front of a patient and having them pedal for 20 to 30 minutes three times a week isn't sufficient. That's not long enough and the intensity isn't high enough. Does it improve function on some level? Yes, but not to such an extent to encourage dialysis clinics to support these types of interventions."

As a self-described proponent of comprehensive intervention strategies, Wilund secured a grant from the National Institutes of Health to conduct what was then the largest and longest study of intradialytic cycling, and included a nutritional component of oral protein supplementation during dialysis. He enrolled 138 patients in the 12-month investigation, with 101 completing the study. The results were disappointing but not surprising, with the control group showing declines in physical function while groups doing the cycling alone and in combination with protein supplementation showing only modest gains in function.

One patient in the experimental group of exercise-plus-protein, however, convinced Wilund that a comprehensive approach addressing both physical activity and diet was the right way to go toward improving function and quality of life among people with CKD. This patient had left the study but returned after two weeks with the desire to keep exercising. Wilund talked to him about changing his diet as well.

"Something clicked," Wilund said. "He started cycling for one hour during every treatment, bought a bike for home use, and minimized his consumption of processed foods, which contain a ton of salt. He lost 40 pounds and was able to get a kidney transplant. This was a guy on his death bed."

## KEEP MOVING

Since then, Wilund has been working to refine interventions that focus on getting patients to, in his words, “move more and eat real food.” He believes renal dietary restrictions are misguided in including things like fruits, nuts, and vegetables on lists of forbidden foods. While they do contain potassium and phosphorous—two minerals that can cause problems for CKD patients—they are not absorbed from natural sources to the extent that they are from processed foods, and they are not high in sodium, which he sees as the real problem for people with kidney disease.

In addition to redefining the renal diet, Wilund wants to broaden the definition of acceptable physical activity. “Instead of just mandating cycling during dialysis, let’s ask, ‘What do you want to do? Are you a social or solitary exerciser?’ Let’s find out what they have access to, what they like and don’t like, and what they’re able to do,” he said. “Cycle during dialysis, then go home and walk the dog, or go shopping. But keep moving.”

While he is excited about his work, he also finds it difficult. “The comprehensive strategy we’re developing involves patients, their families, dialysis clinic staff, nutrition, and exercise. We have to perfect all the pieces, then put it all together.”

“Pieces” on which he’s currently working include the development of training modules that will help patients’ families and caregivers and dialysis clinic staff to implement exercise programs for people with CKD. He also is collaborating on a study of virtual reality’s effectiveness in educating patients about exercise and diet, as well as in reducing depression and increasing happiness through mindfulness training. Based on findings from a previous study that counseling alone was ineffective in motivating dietary changes, he is investigating whether providing patients with low-sodium prepared meals will lead them to embrace a salt-restricted diet.

Some of this research is taking place under the auspices of the body that Wilund considers his greatest contribution to understanding and improving the experiences of people with chronic kidney disease, the Global Renal Exercise network, which he founded early in 2020. An international collaboration of nephrologists, nurses, exercise physiologists, patients, and industry partners, GREX boasts nearly 300 members in more than 30 countries. He has studied approaches in Turkey and Mexico, where dialysis patients have better outcomes, and hopes the work of GREX and its branches such as the Kidney Wellness Institute of Illinois will lead to vast improvements in the United States.



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# LEARNER TO LEADER

## INTERNSHIPS HELP STUDENTS IN THE COLLEGE OF APPLIED HEALTH SCIENCES DEVELOP CRITICAL PROFESSIONAL SKILLS AND SHARPEN THEIR CAREER GOALS.

After graduating in May, Drew Henry, a senior in the community health degree program, plans to pursue a master's degree in public health. She hopes to work in public policy and make health care more accessible in underserved communities.

In the fall of 2020, Henry completed an internship with the Krannert Art Museum that focused on disability and accessibility. She helped to organize panel presentations by students with disabilities and assisted a doctoral student in art education with a project about the accessibility of buildings around Urbana-Champaign. When she secured the internship, she wasn't sure how relevant it would be to her studies in community health. "But it exceeded my expectations," she said. "I will definitely carry the concepts I learned from this one-of-a-kind experience throughout the rest of my education and future career. The internship enhanced my communication and writing skills, and challenged me to become a more creative and imaginative thinker."

## GET HIGHLY QUALIFIED HELP

Each year, hundreds of undergraduate and graduate students in the College of Applied Health Sciences gain professional experience through internships and external placements. Bachelor's degree programs in community health, interdisciplinary health sciences, and recreation, sport and tourism include internships among their graduation requirements. Graduate students in speech and hearing science, public health, health administration, and health technology must complete external placements and capstone projects with professional partners. Each of these requirements is designed to give students real-world, hands-on experience that helps them transition from the university to the workforce. "The professional development, socialization, and mentoring they receive during internships is invaluable," said Caitlin Vitosky Clarke, teaching professor of kinesiology and community health and coordinator of the community health internship program. "They build networks that might even lead to a first job after graduation."



## IT KEEPS YOU FRESH. IT KEEPS YOU ON YOUR TOES AND FORCES YOU TO REMEMBER WHY YOU DO THE THINGS YOU DO.

JACLYN JANSEN

Internships also give students the opportunity to apply the knowledge they've gained from their studies, and to bring fresh perspectives to the organizations with which they work. "The organizations that host our interns gain 250 hours of service from highly qualified students who have the background and foundation to make a difference," said Andriara Schwingel, professor of kinesiology and community health and associate head for undergraduate studies in community health. "As seniors, the interns have gone through the entire community health curriculum with amazing faculty."

Kelli Bertram, family and intern coordinator with Crisis Nursery, said her organization relies heavily on interns to pursue its mission of serving families and children 24 hours a day, seven days a week. "We value the knowledge and skills that interns bring to us, as we are constantly growing," she said. "They help us stay innovative and able to adapt to the current needs within our community."

Bertram says she would "100 percent" recommend working with interns, who take on projects that give them a solid learning experience while allowing Crisis Nursery staff to focus on tasks for which they often don't have time.

Bob Good, who works with recreation, sport and tourism interns as operations and general manager of the Maggie Daley Park Climbing Wall at Lakeshore Sport and Fitness, agrees with Bertram on the benefits of hosting interns. It is a big responsibility, he says, but the return on investment is well worth the effort. "RST students are hard-working and dedicated," he said. "Internships give us an opportunity to introduce quality team members to Lakeshore in a learning environment, with the possibility that they will remain with the company after completing their internships."

### PLAY A VITAL ROLE

Despite the benefits organizations derive from hosting students, professional placement coordinators across the college say it can be a challenge to line up enough sites to host all the students needing positions. It's a wonderful way for alumni to give back to the programs from which they graduated. Jaclyn Jansen, a 2015 graduate of the audiology doctoral program and clinical audiologist with Sarah Bush Lincoln Health Center's Effingham Clinic, says working with students also is a great way to stay abreast of new knowledge and techniques. "Things change constantly with technology, and students are always up-to-date," she said. "It keeps you fresh. It keeps you on your toes and forces you to remember why you do the things you do."

Jansen enjoys staying connected to and feeling part of her alma mater. She recalls the impact of external placements on her own development as a clinician as being "huge." Community health senior Mathilde Hanchard sees the internship as "vital." She completed hers as an assistant to the nursing director at OSF Heart of Mary Medical Center in Urbana. "I learned a lot during my internship about the technical aspects of the work and developing a work ethic, and gained insight into what my future could look like," she said. "It really was a highlight of my time in the College of Applied Health Sciences."

IF YOU WOULD LIKE TO CONTRIBUTE TO THE PROFESSIONAL DEVELOPMENT OF AHS STUDENTS AND PLAY AN IMPORTANT ROLE IN SHAPING THE FUTURE OF YOUR FIELD, MORE INFORMATION CAN BE OBTAINED FROM THE FOLLOWING CONTACTS:

|                                        |                                                                                          |
|----------------------------------------|------------------------------------------------------------------------------------------|
| Community health                       | Caitlin Vitosky Clarke, <a href="mailto:vitosky@illinois.edu">vitosky@illinois.edu</a>   |
| Interdisciplinary health sciences      | Beth Frasca, <a href="mailto:bfrasca@illinois.edu">bfrasca@illinois.edu</a>              |
| Recreation, sport and tourism          | Terri Daniels, <a href="mailto:tadaniel@illinois.edu">tadaniel@illinois.edu</a>          |
| Speech and hearing science             | Noa Hannah, <a href="mailto:nhannah3@illinois.edu">nhannah3@illinois.edu</a>             |
| Master of Public Health                | Allison Musser, <a href="mailto:amusser3@ahs.illinois.edu">amusser3@ahs.illinois.edu</a> |
| Master of Health Administration        | Cassie Meinert, <a href="mailto:cmeinert@illinois.edu">cmeinert@illinois.edu</a>         |
| Master of Science in Health Technology | Nicole Holtzclaw-Stone, <a href="mailto:holtzcla@illinois.edu">holtzcla@illinois.edu</a> |

# T·H·E HOLISTIC APPROACH

In 1950, Thomas Cureton, former professor of kinesiology who is widely regarded as the “Father of Physical Fitness,” founded a summer fitness camp for youth that he dubbed the Sports Fitness Experimental School. His intention was to conduct research that would provide a scientific foundation for physical education, physical activity, and conditioning. In its first year, participants took part in swimming, track and field activities, basic gymnastics, and games. Under Cureton’s leadership, endurance-building activities were added, and before he stepped down as the program’s director in 1969, he was conducting research that compared four types of training to see which yielded the best fitness results.

Over the next almost 50 years, the Sports Fitness Program, as it became known, operated as a fee-based, multi-activity sport camp and earned the distinction of being the oldest and longest-running fitness camp for youth in the United States. Under the leadership of its final director, Gary Crull, program participants engaged with such modern activities as geocaching, Frisbee golf, and rock wall climbing.

When Crull retired in 2018, Kevin Andrew Richards and Naiman Khan, professors of kinesiology and community health, took over as co-directors. Concerned that the program fee excluded youth from communities affected by poverty, their first step was to find funding so that the program, renamed the Illinois Physical Activity and Life Skills Wellness Program, could be free. Over the past three years, they have received support for iPALS from the Illinois State Board of Education, totaling nearly \$400,000.

iPALS continues to emphasize physical activity as an essential component of wellness. As Richards said, “Physical activity is central to the fabric of both our mission and the department of kinesiology and community health.” However, the view of wellness has expanded to include nutrition education, academic enrichment activities, and social and emotional learning. For this last component, the program relies on a





best practice model that is popular in physical education called Teaching Personal and Social Responsibility. “TPSR provides a framework for teaching youth how to take responsibility for themselves and for others, how to be leaders, and how to be self-directed and set their own goals,” Richards said. “It stresses the importance of giving good effort to everything you try, and teaches life skills that help youngsters not only as they matriculate through school, but also for the rest of their lives.”

## A CHANCE TO GAIN EXPERIENCE

iPALS held its first in-person sessions in June and July 2021 with elementary and middle school students enrolled in Champaign Unit 4 schools. Each day of the four-week program begins with breakfast and a group conversation about the life skill that is the focus of the day. Over the course of the day, children cycle through five stations—three focused on physical activity, one on nutrition, and one on academic enrichment—and the day concludes with another group conversation about what they did, what they learned, and how they can carry the learning into their lives outside of iPALS.

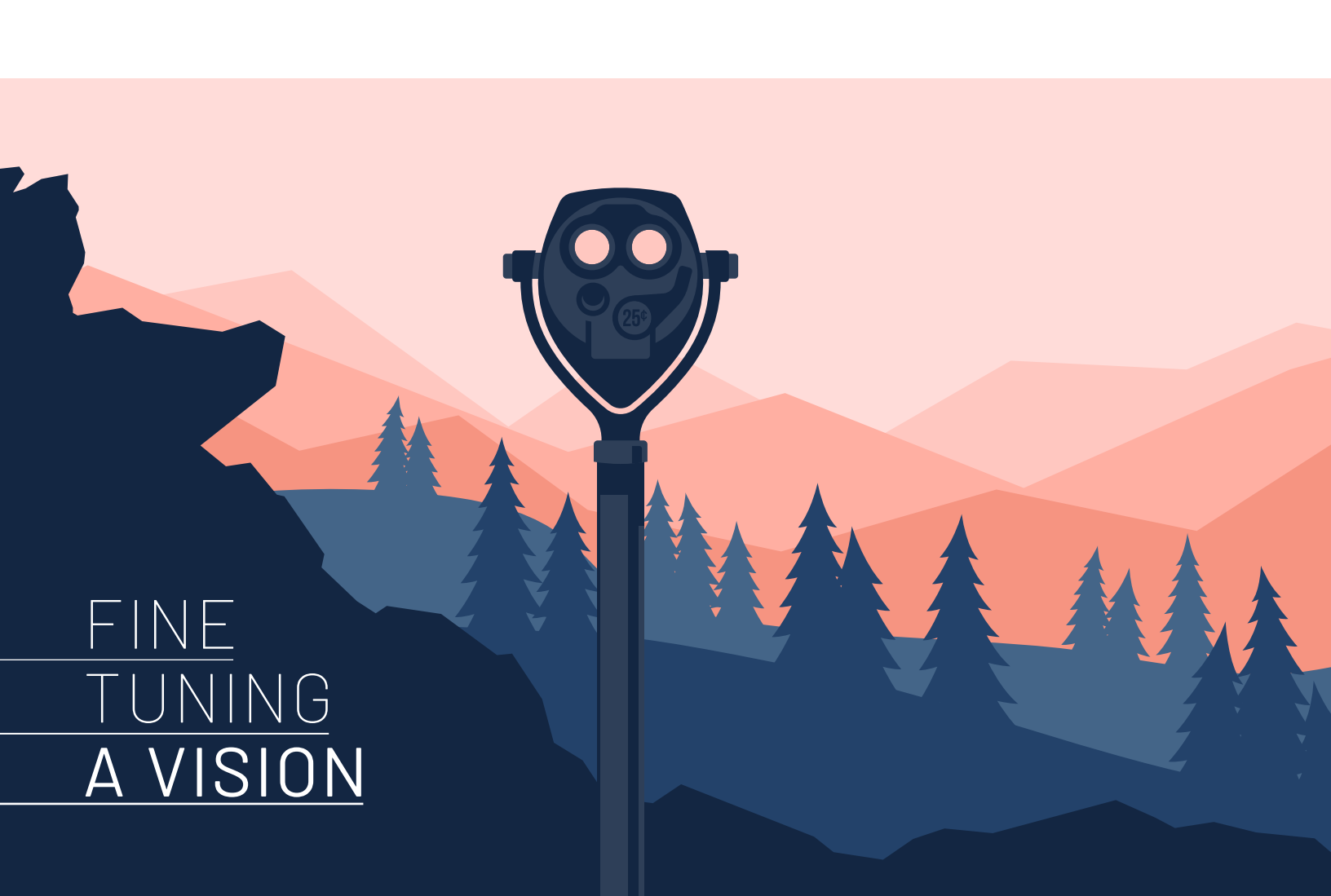
The people leading the discussions and the station activities were mostly undergraduate students at the University of Illinois Urbana-Champaign, who had the opportunity to gain and hone skills that are relevant to their intended careers. That was the case for physical education major Rudy Romo, who worked as the basketball instructor for the iPALS program. While he aspires to work in a high school, Romo found the experience of working with youngsters worthwhile.

“After a long year’s absence [because of COVID], I felt rather lacking in experience,” he said. “I saw iPALS as a perfect opportunity to learn, gain experience, and help the community. I also knew I’d be working side-by-side with people who could oversee my development as an instructor.” His time in iPALS made him more comfortable teaching in front of a group of youngsters. That came in handy for his fall semester placement in St. Charles, Illinois, District 303, where he helped teach physical education classes to elementary and middle school students. “In iPALS, I learned how to level with kids, how to have contagious energy, and how to deliver lessons in ways that didn’t feel static,” he said. The high-energy response of the youngsters reassured Romo that he was “doing things right.” He said the most important lesson he learned from his work with iPALS, however, was to avoid pre-judging activities as too hard for the children you’re teaching. “Students will surprise you in their abilities, and that made me realize that kids want to make instructors proud,” he said. “For that reason, they will try harder.”

## TEACHING, RESEARCH, AND SERVICE

Kevin Richards is back in talks with Champaign Unit 4 schools, planning the summer 2022 offering of the iPALS program. The partnership has been an important one for pursuing grants to support the program and for securing transportation and meals for the participants. Because of the approach Richards and Naiman Khan have taken to the youth wellness program, it reflects the three-pronged mission of the university—teaching, research, and public engagement.

“iPALS provides an excellent co-curricular learning experience to students like Rudy Romo and is a great avenue for research,” Richards said. “It also provides an outstanding service to underserved communities.” Scholars currently are examining data from studies of the relationship between physical activity and cognition, the impact of bullying on young perpetrators and victims, and the influence of needs-supported instruction on instructors and students.



# FINE TUNING A VISION

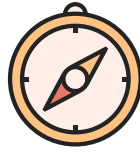
## RETREAT GIVES STAKEHOLDERS OPPORTUNITY TO SHARE THEIR VIEWS ON THE OFFICE OF RECREATION AND PARK RESOURCES

The result of a merger in 1966 of the field service of the department of recreation and park administration and the rural recreation section of the Cooperative Extension Service, the Office of Recreation and Park Resources quickly became a sought-after partner in recreation and park planning and research for communities throughout Illinois. Now the service arm of the department of recreation, sport and tourism, ORPR is expanding its mission to address national and global challenges in the sectors of recreation, parks, sport, and tourism.

The re-envisioning of ORPR's mission has been spearheaded by Laura Payne, RST professor, Extension specialist, and current director of ORPR. Her goal is to improve the health of individuals and communities through research, education, and outreach that deliver high-quality and sustainable programs and services. In November 2021, she brought ORPR stakeholders together and asked them to address three questions: What do you value about ORPR? How can ORPR support or assist your organization and its work? Who else should be at the table with us?

"We generated a lot of rich discussion and accomplished a lot in a short amount of time," Payne said. "The discussion both reinforced what we're already doing and what we believe is important as we work with communities, but also helped us see some new and different ways of thinking about service provision and where we go from here."

One of the key points to emerge from the discussion was that ORPR can and should play a key role in addressing emerging challenges to community well-being by generating creative and innovative solutions. Timothy Bartlett, executive director of the Urbana Park District and University of Illinois Urbana-Champaign alumnus, said meeting participants expressed both willingness and eagerness to participate in devising solutions.



“We welcome more open collaboration among all of the ORPR partners to address the difficult issues facing providers of leisure services,” he said. “The idea is to leverage all of our available resources, with ORPR taking the lead in providing the background, education, research, and implementation methods to help make Illinois a national model for parks and recreation services.”

The research component of ORPR is one of the features that is most valued by communities and agencies. The ORPR team consists of faculty who not only engage in cutting-edge leisure research themselves but who also are well-connected to the international community of leisure scholars, as well as professional organizations. The team is rounded out by outstanding graduate and undergraduate students.

“Our relationship with our communities is bidirectional,” RST’s Payne said. “They have knowledge of trends, emerging issues, and challenges. We have expertise in research methods, data collection and analysis, reporting findings and putting them into perspective. We provide them with research and evidence-based resources that help them respond to their changing needs.”

Terri Reifsteck sees research collaboration as “the way forward” to promote the benefits of recreation, sport, and tourism to residents, government officials, and leisure facilities. She is the vice president of marketing and community engagement for Visit Champaign County, a destination marketing organization. For her, the meeting revealed a plethora of opportunities to work with DMOs across the state. “The benefits of tourism and utilization of our parks and amenities, public spaces, and community events is often difficult to quantify and express to our stakeholders,” she said. “Through a partnership with ORPR, we can determine real impacts that can help our sector grow and thrive in the state of Illinois.”

The other component of ORPR’s mission that stakeholders value is its commitment to educating future leaders in recreation-, sport-, and tourism-related careers in academia and industry. This is in part why ORPR devotes its attention and resources to one project at a time. Not only does it allow for each agency to receive the highest quality service, but it also enables graduate and undergraduate assistants to apply knowledge and skills they have acquired in the classroom.

RST doctoral student Damien Cavanaugh, who is planning on a research and teaching career in higher education, has honed skills relevant to his future through his work with ORPR. He assisted with creating a survey for community residents, analyzed results, and presented findings to officials in government and parks and recreation. He has gained mentoring skills through supervising graduate and undergraduate students in compiling literature reviews and preparing for research presentations.

“It has been highly rewarding to be trusted to work with various projects and to apply my quantitative and qualitative research skills,” he said. “I also gained a lot of insight from just being present for problem-solving dialogues between city officials and academicians.”

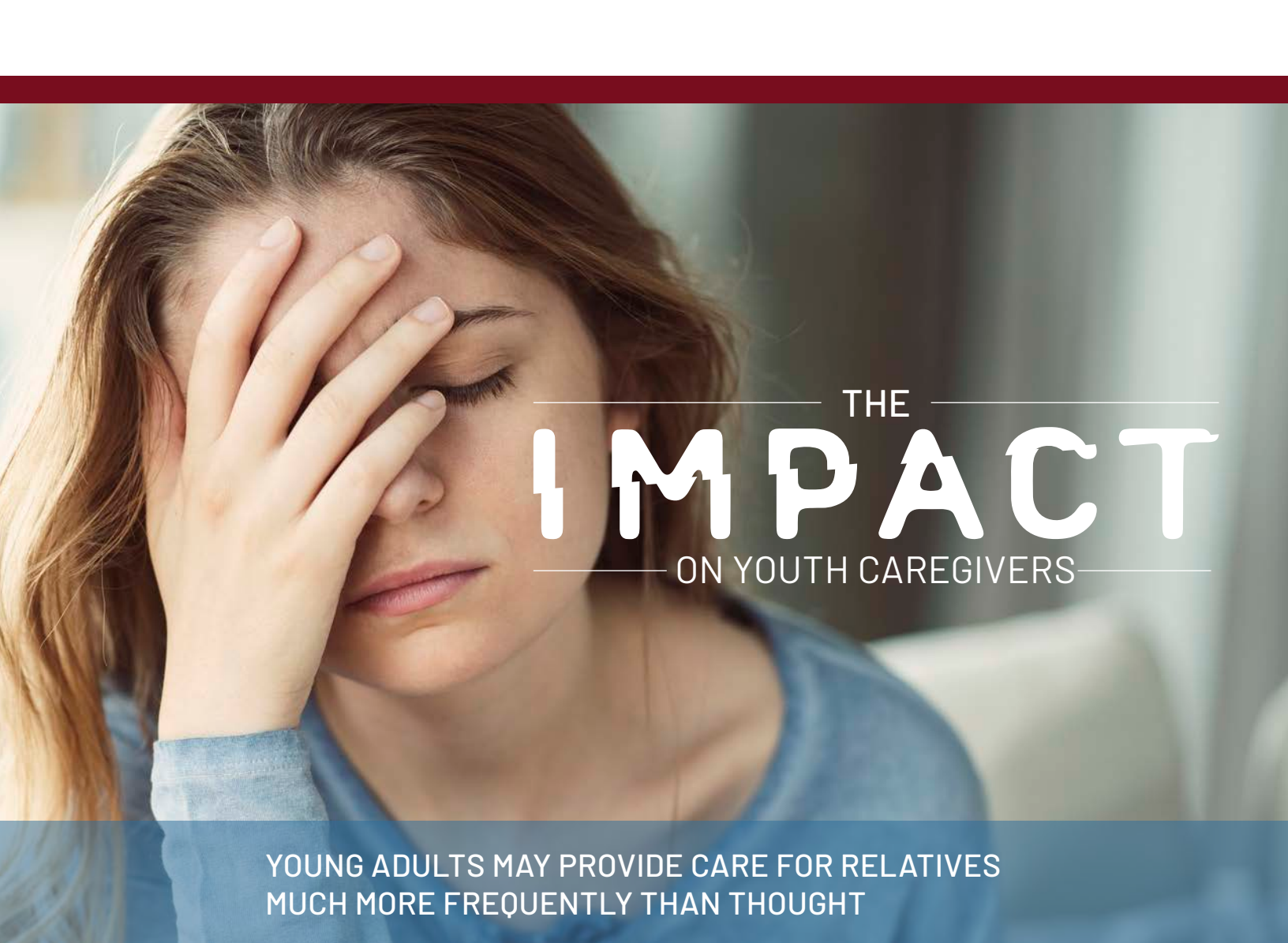
He believes the key takeaways from the November meeting included needs for greater attention to social justice issues and for continuing education for RST practitioners. Laura Payne says she plans to take all of the “good work” that was generated during the meeting and put it to use, quickly and efficiently. She believes there is always room for growth and improvement. “I do think we’ll be fine tuning our vision and goals, and setting our objectives for the next couple of years,” she said. “We’ll use this as our road map, and we’ll make it a well-used plan. It’s not going to be sitting on a shelf.”

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**LAURA PAYNE**  
director of the Office of Recreation and Park Resources



# THE IMPACT ON YOUTH CAREGIVERS

## YOUNG ADULTS MAY PROVIDE CARE FOR RELATIVES MUCH MORE FREQUENTLY THAN THOUGHT

Liz Ahlberg Touchstone, Biomedical Sciences Editor  
*University of Illinois News Bureau*

**YOUNG ADULTS AND TEENS MAY PROVIDE CARE FOR ADULT RELATIVES MUCH MORE OFTEN THAN PREVIOUSLY THOUGHT, ACCORDING TO A NEW STUDY, THOUGH THEY WORRY ABOUT DETRIMENTS TO EDUCATIONAL OR CAREER GOALS AND WOULD LIKE MORE TRAINING AND SUPPORT.**

Thirty-five percent of respondents to a large-scale survey of youths and young adults aged 14-24 said they had previously provided or were currently providing care for older adult relatives—a rate about 10 times higher than previous estimates, suggesting that youth caregiving may be significantly underreported and underestimated, say researchers at the University of Illinois Urbana-Champaign and the University of Michigan, Ann Arbor.

“We generally talk about caregiving in terms of being an adult responsibility. But we found that emerging adults are responsible for taking care of an adult relative in a more intensive capacity much more often than we had thought,” said study leader Minakshi Raj, professor of kinesiology and community health at Illinois. “Understanding their situations and needs can be useful as we develop policies and practices to help these emerging adults.”

The 1,076 survey respondents answered three open-ended text questions about whether they had acted as a caregiver for an adult relative, how caregiving impacts educational or career goals, and what kinds of resources would be most helpful for caregivers. The researchers published the results in the *Journal of Adolescent Health*.





THEY ARE AT A YOUNG AGE TO SHOULDER NOT ONLY THE RESPONSIBILITY AND PRACTICAL DEMANDS OF BEING A CAREGIVER, **BUT ALSO THE EMOTION OF WATCHING SOMEBODY YOU ARE CLOSE TO AS THEY STRUGGLE OR DECLINE.**

Previous estimates have been based on studies of specific diseases, such as cancer or Huntington's disease, or specific tasks, such as bathing. Since the new survey asked respondents to describe the care they provided, it captured many that have not been represented in prior studies, giving a more complete picture of youth caregivers, Raj said.

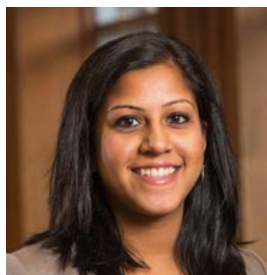
The vast majority of respondents—72 percent—stated that caregiving would or did negatively impact their educational or career goals. However, many who had acted as caretakers described rewarding aspects as well, Raj said, and roughly 9 percent said they would provide care to a relative no matter the personal costs.

"One of the major concerns participants described was having to miss class or work to go home and care for a relative, and a sense of falling behind," she said. "On the other hand, there were rewards of love and reciprocity. We saw a sense of, 'My parents or grandparents took care of me and now this is what I do for them, there's no question about it.'"

In describing what would be helpful to their caretaking responsibilities, the most frequent request was for training in specific skills—for example, demonstrations in how to give medications or change bandages, or more information about their relative's specific condition. Financial resources to help offset caregiving expenses and social and emotional support were also frequent responses.

Next, the researchers are further analyzing the survey responses to catalogue the types of care tasks and responsibilities the young adult respondents have provided: short or long term, part or full time, and independent caregiving or helping out as part of a team or family effort. Understanding the types of responsibilities the young adults describe can help policymakers and health care providers better equip the caretakers, Raj said.

"A big takeaway for health care providers from this study is that it's really important to talk to young adults and figure out what their caregiving experiences are, and there are two reasons for that. First, to point them to resources so that they can learn how to be a caregiver, if that's something that they need. Second, to be able to intervene early if there are impacts of caregiving on mental or physical health," she said. "They are at a young age to shoulder not only the responsibility and practical demands of being a caregiver, but also the emotion of watching somebody you are close to as they struggle or decline."



**MINAKSHI RAJ**

PROFESSOR OF KINESIOLOGY AND  
COMMUNITY HEALTH AT ILLINOIS

# AHS HONORS OUTSTANDING ALUMNI

**GRADUATES OF ALL THREE DEPARTMENTS WITHIN THE COLLEGE OF APPLIED HEALTH SCIENCES WERE RECOGNIZED WITH ALUMNI AWARDS AT AN EVENT THAT HIGHLIGHTED THE COLLEGE'S CELEBRATION OF HOMECOMING WEEK 2021.**

The **AHS Distinguished Alumni Award** went to J. Robert Rossman, retired dean of Illinois State University's College of Applied Science and Technology, who completed M.S. and Ph.D. degrees in the department of recreation, sport and tourism.

The Division of Disability Resources and Educational Services' **Harold Scharper Award** went to Anjali Forber-Pratt, director of the National Institute on Disability, Independent Living, and Rehabilitation Research, who completed B.S. and M.A. degrees in the department of speech and hearing science.

The inaugural recipient of the **Young Alumni Award** was Jennifer Jacobs, associate professor of sport psychology at Northern Illinois University, who completed her bachelor's degree in the department of kinesiology and community health.

## “MAYBE I COULD BECOME A FACULTY MEMBER.”



J. ROBERT ROSSMAN

J. Robert Rossman grew up in a small town in southern Indiana that didn't even have a year-round recreation program and became one of the leading scholars in the area of recreation programming and leisure experiences.

His journey took him to Indiana University, where he obtained a degree in park and recreation administration before taking a two-year internship offered by the National Recreation and Park Association with the Oak Park, Illinois, Park District. After completing the internship, he took a position as an assistant director with the Oak Park district and spent five years overseeing special events and supervising the district's seven neighborhood recreation centers.

During that time, Rossman took advantage of a master's degree program being offered in the Chicago area by what was then the department of leisure studies at Illinois. The program required students to take classes in Urbana-Champaign in the final semester. "I found the classes to be more stimulating than my day-to-day work," he said. "I pursued the thought that maybe I could become a faculty member."

Joseph Bannon and Allen Sapora encouraged him to enroll in the doctoral program, and Bannon helped him secure a position as a lecturer and coordinator of the undergraduate internship program. He said the mix of practitioners and researchers on the faculty fit his interests perfectly. "I was looking for knowledge that would inform good practice," Rossman said. "That's been my career—building bridges between research and what it means for improving practice."

That career took him first to North Texas State University, now the University of North Texas, where he served as chair of the Division of Recreation and Leisure Studies, acting chair of the Division of Health Education, and chair of the department of kinesiology, health promotion, and recreation. He went on to the University of Nevada Las Vegas, where he was chair of the department of leisure studies and founding dean of the Greenspun College of Urban Affairs. From there, he joined Illinois State University as dean of the College of Applied Science and Technology.

Rossman's research focused on recreation programming and designing and staging recreation experiences. He wrote *Recreation Programming: Designing, Staging, and Managing the Delivery of Leisure Experiences*, now in its eighth edition, which has been a critical part of RST curriculums at more than 100 colleges and universities worldwide for more than 30 years.

Since retiring in 2006, Rossman has held a three-year visiting professorship at Texas A & M University and taught classes in China and Thailand. He co-authored *Designing Experiences* with Matthew Duerden of Brigham Young University. Published in 2019 by Columbia Business School Publishing, the book received a silver medal in the Business Intelligence/Innovation category of the 2021 Axiom Business Book Awards. In 2020, he helped to found the World Experience Organization.

His professional contributions have resulted in a variety of accolades, including the Legend in the Field of Parks and Recreation Award from the American Academy for Park and Recreation Administration, the Academy of Leisure Sciences' Distinguished Colleague Award for lifetime achievement, and induction as a Fellow in the Academy of Leisure Sciences.

## “I FOUND A LOVE FOR RESEARCH”



ANJALI FORBER-PRATT

Born in Kolkata, India, Anjali Forber-Pratt lived in an orphanage for more than two months before being adopted and moving to Massachusetts. Shortly after arriving in the United States, she was diagnosed with transverse myelitis, an inflammation of the spinal cord that left her paralyzed from the waist down.

Like Harold Scharper, the first person with paraplegia to attend the University of Illinois Urbana-Champaign full time, Forber-Pratt's life has been characterized by determination and perseverance. After seeing wheelchair racers in the Boston Marathon at just five years old, she took up the sport and won many medals as a junior competitor. When she couldn't race after breaking both her wrists in an accident, she took up competitive downhill skiing, again winning many medals. When school district administrators failed to address her needs for more accessibility in her high school, she sued them in a precedent-setting case that resulted in the first punitive and compensatory damages awarded under the Americans with Disabilities Act in a public education domain.

Little wonder that when it came time to decide where to pursue her bachelor's degree, Forber-Pratt wanted to go somewhere where the accessibility battles had already been fought. "I just wanted to have the opportunity to be a college kid," she said. As a high school athlete, she had been amazed at how easy it was to get around the Urbana-Champaign campus when she attended a wheelchair track camp sponsored by the Division of Disability Resources and Educational Services. And so she came to Illinois, where she decided to pursue her interest in language and communication in the department of speech and hearing science.

Forber-Pratt's plan to become a speech-language pathologist shifted as she progressed through her undergraduate and master's degree programs. "As I got more involved in research during my undergraduate studies as well as in the master's program—working in labs with deaf populations and others—I found a love for research, especially as it connected to disability," she said.

She went on to complete a Ph.D. in human resource development and joined the University of Kansas as an assistant research professor. Two years later, she took a position with Vanderbilt University, where she was a rising star in the area of disability identity development. In 2021, President Joseph Biden asked her to serve as the director of the National Institute on Disability, Independent Living, and Rehabilitation Research. Although she is no longer doing research herself, she is helping to shape the federal research agenda on disability and, as she put it, "leaving a mark in a different way, thinking more broadly about who isn't included in research but should be, and leading by example."

The recipient of the American Psychological Association's Citizen Psychologist Award for Advancing Disability as a Human Rights and Social Justice Issue and the Guiding Woman in Sport Award from SHAPE America, Forber-Pratt says the University of Illinois Urbana-Champaign not only taught her how to be a researcher and reinforced the importance of giving back, but also taught her how to be a leader, just like Harold Scharper.

## “HOPEFULLY, I’VE CREATED MAGIC”



JENNIFER JACOBS

AHS bestowed its first ever Young Alumni Award on Jennifer Jacobs, professor of kinesiology and physical education at Northern Illinois University. Jacobs grew up in the most diverse neighborhood in Chicago, Rogers Park. “On my block, there were rich and poor people, people who spoke different languages, families that had two moms or no dads or someone in a gang or someone with a master’s degree,” she said. “My exposure to people from such different backgrounds early on was absolutely a privilege that led me to doing social justice-related work.”

Her commitment to diversity, inclusivity, and fairness, combined with her own experience with sports, led Jacobs to develop an interest in sport psychology and to her decision to pursue that interest as a student of kinesiology at Illinois. She recalls being an “overeager sophomore” in Edward McAuley’s Introduction to Sport Psychology class, experiencing the “magic” of learning about how youth can prosper. She joined McAuley’s Exercise Psychology Lab as an undergraduate research assistant and began to think about how she could apply what she was learning to issues that were important to her, specifically working with youth from disadvantaged backgrounds who suffered injustices because of systemic inequalities.

While pursuing her master’s degree in kinesiology at the University of Wisconsin-Madison, Jacobs founded Camp Play-A-Lot for youth in the Rogers Park neighborhood. Built on a foundation of research about the use of sport and play to promote youth development, the activities of Camp Play-A-Lot promoted positive peer interactions and the development of goals and life skills for school, home, and community. Jacobs ran the summer camp for 10 years, serving more than 300 campers from 25 schools.

Jacobs joined the faculty at Northern Illinois University after completing her Ph.D. in educational psychology there in 2016. She is the associate director of the College of Education’s Physical Activity and Life Skills group, which promotes youth development and positive social change, in part by training teachers to use social and emotional learning in physical education. She has participated in international exchange programs focused on racial and gender equity in Sri Lanka and Belize, and founded Project Fitness Leadership Experience, or Project FLEX, which engages incarcerated youth in a positive sports program that teaches leadership, life skills, and healthy fitness behaviors for life after prison. Since its founding, she has worked with hundreds of incarcerated youth and expanded the program to a second site.

She said, “I’ve had the opportunity to receive funding from grant agencies from small and local up to the federal level. I’ve had the chance to speak at national conferences, and to see my first-generation students talk about their experiences in research. And hopefully, I’ve had the opportunity to create some magic for students just as it was created for me at Illinois.”

NIU’s College of Education honored Jacobs with its 2020 Exceptional Contributions to Diversity and Social Justice Award. That same year, she received the Outstanding Honors Capstone Mentor Award from NIU’s Honors Program in recognition of the outstanding work she does supervising the independent studies of more than 15 students a year.

# DANIEL FOGERTY

Professor

DEPT | Speech and Hearing Science

RESEARCH BRIEF

*Journal of the Acoustical Society of America*

DEC 2021

Glimpsing Keywords across Sentences in Noise: A Microstructural Analysis of Acoustic, Lexical, and Listener Factors



## WHAT WAS THE PURPOSE OF YOUR STUDY?

To assess speech intelligibility, common clinical and research testing methods typically count the number of sounds, words, or sentences correctly perceived. This ignores variability in the reception of these elements due to acoustic and linguistic factors. Large variability in speech intelligibility also exists among individuals due to differences in auditory, cognitive, and language processing abilities. The purpose of this study was to assess how multidimensional properties of the message and abilities of the listener determine the specific, time-varying errors that people make when listening to sentences in different types of background noise.

## WHAT DID YOU FIND?

As speech and noise are time-varying acoustic signals, the speech occasionally “pops out” from the background noise. We discovered that acoustic and language measures of the available speech combine to predict speech intelligibility. In addition, auditory and cognitive abilities helped to explain performance differences among older adults. Importantly, the relative contribution of these factors varied due to background noise.

## WHAT ARE THE IMPLICATIONS OF YOUR RESULTS?

Listening requires sufficient hearing acuity, but we also recruit language and cognitive abilities to actively interpret partial speech information as it unfolds over the time course of the sentence. Importantly, we can measure the recruitment of these abilities from clinical speech intelligibility tests. This knowledge may help us to better design precision-based methods for targeting listener-specific deficits using testing methods similar to those already implemented in the clinic.



DANIEL FOGERTY

# SOYOUNG CHOI

Professor

DEPT | Kinesiology and Community Health

RESEARCH BRIEF

*Heart and Lung*

OCT 2021

Longitudinal Family Caregiving Experiences in Heart Failure: Secondary Qualitative Analysis of Interviews



## WHAT WAS THE PURPOSE OF YOUR STUDY?

The overall purpose of my research was to longitudinally explore the caregiving experiences of primary family caregivers of people with heart failure by analyzing serial interview scripts. I analyzed textual data (i.e., 682 text files), collected from 102 family caregivers, by employing both LDA topic modeling (a machine-learning technique) and manual content analysis. The paper presented the findings from the manual content analysis of 53 family caregivers in the context of advanced heart failure.

## WHAT DID YOU FIND?

The themes that emerged from the serial interviews with family caregivers providing for people with advanced heart failure were: 1) accumulating knowledge and skills for caregiving; 2) losing a sense of control; 3) balancing an unstable life; 4) constructing illness memory; 5) centering the patient in daily life; 6) accepting the loss of a family member; 7) coping with grief by drawing on social support; 8) facing financial responsibility; and 9) rethinking hospice care. These themes demonstrate that the ongoing and unpredictable nature of care, together with the trauma of sudden exacerbation of heart failure, makes caregiving a burden that affects the whole family.

## WHAT ARE THE IMPLICATIONS OF YOUR RESULTS?

The challenges and unmet needs of family caregivers vary according to the stage of heart failure. Rather than supporting family caregivers with standardized interventions or support systems, a better approach is repetitive evaluation of family caregivers' concerns to form a comprehensive care plan. To incorporate and sustain family caregivers in chronic illness management and reduce the prevalence of caregiver burden, a deeper understanding should be developed of family caregivers' attitudes, values, knowledge, and emotions.



SOYOUNG CHOI

# SARAH GEIGER

Professor

DEPT | Kinesiology and Community Health

RESEARCH BRIEF

*Journal of Public Health Mgmt & Practice*

JAN 2021

Predictors of Water Lead Levels in Drinking Water of Homes with Domestic Wells in 3 Illinois Counties

L

## WHAT WAS THE PURPOSE OF YOUR STUDY?

Despite evidence that lead is harmful to people's health, federal requirements and funding for testing water lead in the millions of US homes with private wells are nonexistent. It's also thought that more corrosive water, as well as age of housing (and therefore age of plumbing) are predictors of water lead levels. In this context, our team aimed to characterize the distribution of water lead levels and water corrosivity in tap water of homes with private wells in three Illinois counties—Kane County in Northern Illinois outside of Chicago, Peoria City/County in central Illinois, and Jackson County in Southern Illinois.

## WHAT DID YOU FIND?

Of the 151 homes in our study, 63% were older homes, defined as being built in 1986 and earlier. Almost half (48.3%) had detectable lead, and 3.3% had levels exceeding the U.S. Environmental Protection Agency action level that applies to community drinking systems. Compared with newer homes with low corrosivity, both old homes with low corrosivity and old homes with high corrosivity were significantly associated with increased odds of lead detection.

## WHAT ARE THE IMPLICATIONS OF YOUR RESULTS?

Our study points to a public health need for testing homes with private wells for lead. Using the findings from this study, our team was able to secure a grant from the Department of Housing and Urban Development to expand into two more Illinois counties and to conduct a randomized controlled trial to test water lead mitigation methods. We look forward to sharing the findings of this study in the future.



SARAH GEIGER

# SUIWEN ZOU

Professor

DEPT | Recreation, Sport and Tourism

RESEARCH BRIEF

*Current Issues in Tourism*

MAY 2021

Mobile vs. PC: The Device Mode Effects on Tourism Online Survey Response Quality



## WHAT WAS THE PURPOSE OF YOUR STUDY?

The use of mobile devices such as smartphones and tablets to fill out online surveys has grown steadily. While mobile technology opens up new opportunities for data collection, some researchers are concerned about the quality of data collected from mobile devices. Compared to personal computers and laptops, mobile devices have a smaller screen and a virtual keyboard, making it more challenging for respondents to read and provide inputs. Respondents using mobile devices are more likely to be in an away-from-home/work social environment and are more likely to be distracted. Therefore, it is important to understand the features of using mobile devices to collect data from a methodological perspective.

## WHAT DID YOU FIND?

Results from both the U.S. and China studies revealed that few disparities were found in data quality between mobile and PC respondents. Specifically, no difference was found in the frequency of selecting the 'Other' option that required typing a response, the length of typed answers to open-ended questions, and scale reliability. Several behavior patterns among mobile respondents were identified.

## WHAT ARE THE IMPLICATIONS OF YOUR RESULTS?

These findings provide practical implications to optimize web-based surveys for mobile users in research. The results suggested that online survey data collected from mobile devices is not of lower quality than PC-entered data, encouraging researchers to take advantage of mobile devices in research design. Researchers need to consider the features of mobile devices when designing research and online surveys. Key open-ended questions should be placed at the beginning of the mobile survey to minimize the adverse effects of fatigue or impatience. Survey invitations targeting mobile respondents should be sent at specific times of the day to increase response rates. Since demographics differed between mobile and PC respondents, researchers should consider this demographic pattern during the sampling stage.



SUIWEN ZOU

# NEW FACULTY

## THREE SCHOLARS JOINED OUR FACULTY IN THE FALL

### RACHEL HOOPSICK

#### DEPARTMENT OF KINESIOLOGY AND COMMUNITY HEALTH



Rachel Hoopsick joined the department of kinesiology and community health in August. She completed master's degrees in epidemiology and public health, with a focus on health services administration, and a Ph.D. in community health and health behavior at the University at Buffalo. Prior to joining AHS, she was an NIH National Research Service Award postdoctoral fellow in the University at Buffalo's Department of Family Medicine Addiction Management Track, where she assisted with research on the opioid intervention court strategy and social and environmental influences on substance abuse among reservists. She also worked during this time as a clinical epidemiologist with the Horizon Corporations.

Hoopsick's research applies epidemiological methods and a socioecological perspective to understanding the risk and resilience factors associated with substance abuse and mental health. She is a Master Certified Health Education Specialist through the National Commission for Health Education Credentialing. In 2019, she received the Outstanding Doctoral Achievement Award from the Department of Community Health and Health Behavior at the University at Buffalo.

A longtime public health educator, Professor Hoopsick says she has found KCH students impressive. "After teaching a graduate-level course in applied epidemiology and reviewing the final projects of our MPH and Ph.D. students, I have a lot of hope in the future of public health," she said. "I am so privileged to be a part of educating the next generation of public health leaders." She was concerned that taking a new position during the pandemic would be an isolating experience, but has found her colleagues to be welcoming and supportive. "It's easy to see why so many successful faculty members have both started and finished their academic careers with the University of Illinois Urbana-Champaign," she said.

## KATHERINE “KAT” CHESNUT

### DEPARTMENT OF SPEECH AND HEARING SCIENCE



Katherine “Kat” Chesnut, Au.D., CCC-A /L, joined the department of speech and hearing science as a clinical professor. She received both her B.S. in speech and hearing science and her Au.D. from the University of Illinois Urbana-Champaign. As a doctoral student, Chesnut served as a teaching assistant for two courses, Communication Partners and Health and Hearing Processes and Disorders. She also received the Frances L. Johnson Award in 2017. Since completing her Au.D., she has worked as a clinical audiologist for Carle Audiology & Hearing Services, conducting comprehensive audiometry, selecting and programming hearing aids, conducting ABR assessments, counseling patients, and evaluating, selecting, and programming BAHA devices for adults.

Chesnut says she enjoys working with students and watching them grow as clinicians. “It is an interesting, new perspective being on the teaching side of the process and teaching the skills I acquired here as a student,” she said. “Working in a clinic that collaborates with university research challenges and enhances the way we look at our clinical procedures and helps us give the best possible service to the community.”

## SOYOUNG CHOI

### DEPARTMENT OF KINESIOLOGY AND COMMUNITY HEALTH



Soyoung Choi joined the department of kinesiology and community health in October. She was a research assistant professor in the College of Nursing at Yonsei University in South Korea, where she taught classes in nursing research, pathophysiology, and management of adult health problems. She completed baccalaureate and master’s degrees in nursing at Yonsei University, and a PhD in nursing at The Pennsylvania State University in 2020. She also holds several certifications in information technology and data science, including from IBM, the University of Michigan, and Johns Hopkins University.

Choi’s recent work focuses on the development and dissemination of personalized health care programs for people who are blind to support their independent living and healthy aging. She has been working with AHS’s Center on Health, Aging, and Disability on pilot studies of digital biomarkers to objectify blind individuals’ circadian rhythms and problematic health behaviors.

Choi says she has found a lot of support in AHS in her first semester. “Senior faculty members have shared their valuable insights on research, teaching, and service, and provided practical tips for maintaining a healthy work-life balance,” she said. “A big part of my job satisfaction comes from working with colleagues who generate good vibes and motivate me. AHS respects cultural differences and varied work styles, and that encourages me to communicate with and learn from others.”

# AWARDS + HONORS

## NATIONAL RECOGNITION



### KIM GRABER

DEPARTMENT OF KINESIOLOGY AND COMMUNITY HEALTH

Kim Graber, professor and head of kinesiology and community health, was invited to give the Raymond A. Weiss Lecture as part of the SHAPE America Distinguished Lecture Series. The lecture supports a scholar who is an outstanding leader in the field and has made contributions in the arts and sciences within the fields represented in the organization.



### IAN MERTES

SPEECH AND HEARING SCIENCE

Ian Mertes, professor of speech and hearing science, received a Professional Poster Award at the American Academy of Audiology (AAA) 2021 Virtual conference held on April 14–16. The presentation was entitled “Olivocochlear effects on otoacoustic emissions versus auditory steady-state responses.”



### JEAN DRISCOLL

COLLEGE OF HEALTH SCIENCES

Jean Driscoll, assistant dean for advancement, received an honorary doctorate from Gettysburg College in a virtual ceremony on May 17.



## JOELLE SOULARD

DEPARTMENT OF OF RECREATION, SPORT AND TOURISM

Joelle Soulard, professor of recreation, sport and tourism, won the Best Paper Award for Qualitative Research Methods at the 2021 Annual International Travel and Tourism Research Association (TTRA) Conference for her paper titled, "Drawing as a Way of Expressing Transformation after a Trip."



## MARNI BOPPART

DEPARTMENT OF KINESIOLOGY AND COMMUNITY HEALTH

Marni Boppart, professor of kinesiology and community health, was inducted as a Fellow in the American Physiological Society, an elite member status reserved to honor distinguished leaders who have demonstrated excellence in science, have made significant contributions to physiological sciences and related disciplines, and have served the society.



## WEIMO ZHU

DEPARTMENT OF KINESIOLOGY AND COMMUNITY HEALTH

Weimo Zhu, professor of kinesiology and community health, has been chosen to give the SHAPE America C. H. McCloy Memorial Lecture at the 2022 SHAPE America national conference in New Orleans. The C. H. McCloy Memorial Lecture provides an in-depth coverage of a research topic and an opportunity to give formal peer recognition to persons who have made outstanding contributions to HPERD.

# AWARDS + HONORS

## NATIONAL RECOGNITION



**JON WELTY PEACHEY**

DEPARTMENT RECREATION, SPORT AND TOURISM

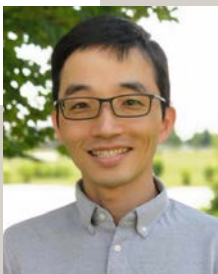
Jon Welty Peachy has been appointed research fellow by the North American Society for Sport Management.



**JULIAN WOOLF**

DEPARTMENT RECREATION, SPORT AND TOURISM

Julian Woolf has been appointed research fellow by the North American Society for Sport Management.

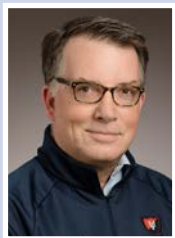


**MIKIHIRO SATO**

DEPARTMENT RECREATION, SPORT AND TOURISM

Mikihiro Sato has been appointed research fellow by the North American Society for Sport Management.

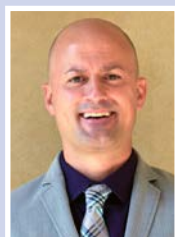
## CAMPUS RECOGNITION



**MIKE RAYCRAFT**

**DEPARTMENT OF RECREATION, SPORT AND TOURISM**

Mike Raycraft, clinical professor of recreation, sport and tourism, received the Excellence in Undergraduate Teaching award from the Office of the Vice Chancellor for Academic Affairs and the Office of the Provost.



**SEAN MULLEN  
NEHA GOTHE  
SHANNON MEJÍA**

**DEPARTMENT OF KINESIOLOGY AND COMMUNITY HEALTH**

Sean Mullen, Neha Gothe, and Shannon Mejía, professors of kinesiology and community health, were awarded affiliate status in the Center for Social and Behavioral Science.



**ANDREA PACELEY**

**DEPARTMENT OF SPEECH AND HEARING SCIENCE**

Andrea Paceley, graduate secretary of speech and hearing science, received a 2021 Chancellor's Distinguished Staff Award.



**RAKSHA MUDAR**

**DEPARTMENT OF SPEECH AND HEARING SCIENCE**

Raksha Mudar, professor of speech and hearing science, was selected by the Office of the Provost to participate in the Building Pathways for Emerging Leaders at Illinois. The program is designed for faculty members at the associate and full professor rank who demonstrate leadership potential in their current role.



**PAMELA HADLEY**

**DEPARTMENT OF SPEECH AND HEARING SCIENCE**

Pamela Hadley, professor and head of speech and hearing science, was selected by the Office of the Provost to participate in the Big Ten Academic Alliance Department Executive Officer (DEO) program. The Department Executive Officer Program was created by the Provosts of the Big Ten Academic Alliance, the academic consortium of the Big Ten Universities to develop the leadership potential of participating faculty.

## COLLEGE RECOGNITION

### STAFF EXCELLENCE AWARD



**ANDREA PACELEY**  
DEPARTMENT OF SPEECH  
AND HEARING SCIENCE

### ACADEMIC PROFESSIONAL EXCELLENCE AWARD



**APRIL CARTER**  
ILLINOIS ACADEMIC ENRICHMENT  
AND LEADERSHIP PROGRAM (I-LEAP)

### EXCELLENCE IN UNDERGRADUATE ADVISING AWARD



**AMY O'NEIL**  
DEPARTMENT OF KINESIOLOGY  
AND COMMUNITY HEALTH

### PHYLLIS J. HILL JAMES SCHOLAR FACULTY AWARD FOR EXEMPLARY MENTORING



**ROBYN DETERDING**  
DEPARTMENT OF RECREATION,  
SPORT AND TOURISM

### EXCELLENCE IN ONLINE EDUCATION AND DISTANCE TEACHING AWARD



**LAURA DAVIES BRENIER**  
DEPARTMENT OF SPEECH  
AND HEARING SCIENCE

EXCELLENCE IN GRADUATE  
STUDENT MENTORING  
AWARD



**CYNTHIA JOHNSON**  
DEPARTMENT OF SPEECH  
AND HEARING SCIENCE

EXCELLENCE IN GRADUATE  
AND PROFESSIONAL  
TEACHING AWARD



**MONIKA STODOLSKA**  
DEPARTMENT OF RECREATION,  
SPORT AND TOURISM

EXCELLENCE IN  
UNDERGRADUATE TEACHING  
AWARD: TEACHING  
ASSISTANT



**SHRADDHA SHENDE**  
DEPARTMENT OF SPEECH  
AND HEARING SCIENCE

EXCELLENCE IN  
UNDERGRADUATE TEACHING  
AWARD: SPECIALIZED  
FACULTY



**MICHAEL RAYCRAFT**  
DEPARTMENT OF RECREATION,  
SPORT AND TOURISM

EXCELLENCE IN  
UNDERGRADUATE TEACHING  
AWARD: FACULTY



**LAURA MATTIE**  
DEPARTMENT OF SPEECH  
AND HEARING SCIENCE

# THE NUMBERS



## TOTAL STUDENT ENROLLMENT

2566

### ENROLLMENT

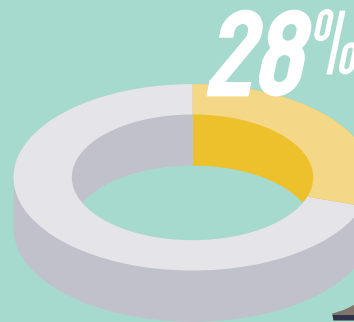
|                |      |
|----------------|------|
| UNDERGRADUATES | 2147 |
| GRADUATES      | 419  |
| TOTAL          | 2566 |

### UNDERGRADUATE

|                    |     |
|--------------------|-----|
| FIRST-YEAR         | 391 |
| SOPHOMORES         | 448 |
| JUNIORS            | 583 |
| SENIORS            | 704 |
| NONDEGREE/2ND B.S. | 21  |

### GRADUATE

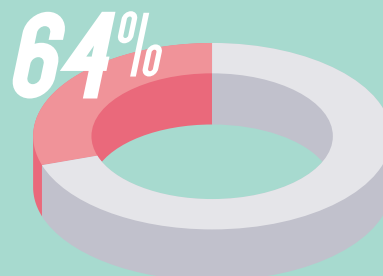
|           |     |
|-----------|-----|
| MASTER'S  | 257 |
| DOCTORAL  | 157 |
| NONDEGREE | 5   |



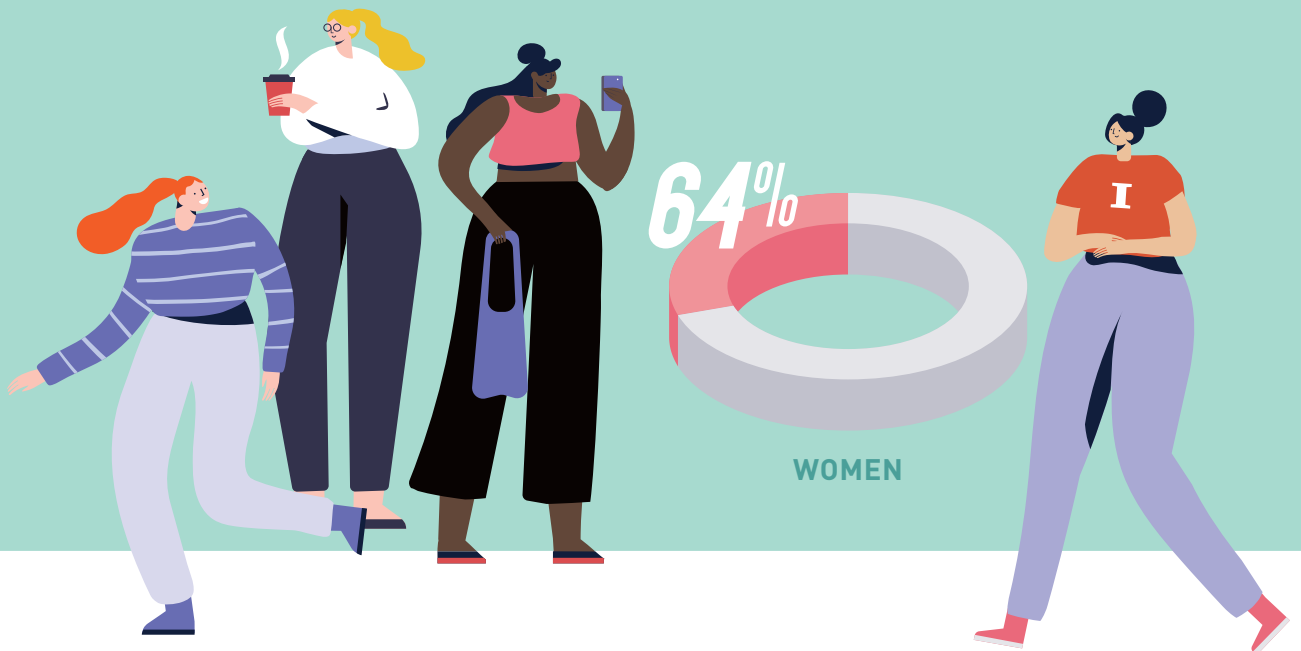
UNDERREPRESENTED



INTERNATIONAL



WOMEN



# IN MEMORIAM

## ROBERT HERRON

Robert Herron, 83, former dean of what was then the College of Applied Life Studies at Illinois, passed away on February 11, 2020, in Fort Collins, Colorado. He held degrees from Queen's University, Belfast, Northern Ireland; Nottingham University, England; Loughborough College, England; and the University of Illinois Urbana-Champaign, where he earned a master's degree in 1960 and a Ph.D. in 1964 in physical education. He received academic awards from Illinois, the Institute of Occupational Health in Helsinki, Finland, and the Society of Photo-optical Instrumentation Engineers. Starting in the mid-1960s, he pioneered the development of biostereometrics (multi-dimensional anthropometry) in some thirty areas of biology and medicine. He published 130 professional papers and carried out numerous research projects for NASA, OSHA, the Department of Transportation, the United States Army and Air Force, and the World Health Organization. He also established ergonomics programs at four major universities and represented the U.S. on international standards committees for anthropometry and biomechanics.

## WILLIAM MCKINNEY

William McKinney, 73, former head of what was then the Department of Recreation and Park Administration, passed away on October 17, 2020, at his home in Arizona. He earned his undergraduate degree at Southern Illinois University after serving in the Marines. He joined the faculty of the Department of Recreation and Park Administration at the University of Illinois Urbana-Champaign after completing his doctoral degree in the program. He served as chief of the Office of Recreation and Park Resources and then department head, a position he held for almost 10 years. His research examined the management of park and recreation agencies, investigating how they could be more efficient, effective, and better meet the needs of community residents. He played a key role in the development of the National Recreation and Park Association's Certified Leisure Professional Examination, which had a significant impact on the professionalization of the field. He also was active in the Illinois Park and Recreation Association.

## JOSEPH BANNON

Joseph Bannon, 89, former head of what was then the Department of Leisure Studies at Illinois, passed away on March 30, 2021, in Champaign, Illinois. After graduating cum laude from Ithaca College in 1957, he completed a master's degree in the Department of Recreation and Municipal Park Administration at Illinois. He worked in recreation administration in New Jersey and Kansas before returning to Urbana-Champaign in 1966 as director of the Office of Recreation and Park Resources. He completed his Ph.D. in 1971 and became head of the Department of Leisure Studies in 1973. He was a cofounding editor of the *Journal of Park and Recreation Administration* and a founding member of The Academy of Leisure Sciences and the American Academy of Park and Recreation Association. In 1977, he developed and published *Management Strategy* to disseminate management information to parks and recreation professionals throughout the world. This led to his founding Sagamore Publishing in 1990. In 2001, he was honored with the Pugsley Award, the most distinguished award for park and recreation conservation given in the profession.

## KENNETH WATKIN

Kenneth Watkin, 77, founding director of the College of Applied Health Sciences' Center on Health, Aging, and Disability, passed away on October 19, 2021, in Champaign, Illinois. Born in Manitoba, Canada, he immigrated to the United States to pursue graduate degrees at the University of Wisconsin and the University of Washington, where he earned his Ph.D. in speech physiology. He had a distinguished career on the faculties of the University of Wisconsin, the University of Michigan, McGill University, and the University of Illinois Urbana-Champaign, where he held appointments in the Department of Speech and Hearing Science in AHS, the Beckman Institute, and the College of Medicine. His research interests included the development of nanoparticles for drug delivery, imaging contrast agents for image-guided therapy, and cyberphysical systems for health monitoring and therapy, as well as high-resolution 3-D multimodal brain imaging and nanomedicine. He received national and international awards for his early research on three-dimensional ultrasound and for his later research on dysphagia and the use of nanoparticles in medicine and agriculture.

## COLLEGE OF APPLIED HEALTH SCIENCES

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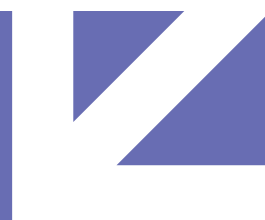
### AHS ADMINISTRATION

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Associate Dean for Academic Affairs: Reginald Alston  
Associate Dean for Administration: Suzanne Rinehart  
Associate Dean for Research: Jeff Woods  
Associate Dean for Faculty Affairs: Amy Woods  
Senior Assistant Dean for Undergraduate Recruitment, Advising, and Enrichment: Gretchen Adams  
Assistant Dean for Advancement: Jean Driscoll  
Assistant Dean of Budget and Strategic Business Operations: Liz Clawson

### DEPARTMENT AND UNIT HEADS:

Kinesiology and Community Health: Kim Graber  
Recreation, Sport and Tourism: Carla Santos  
Speech and Hearing Science: Pamela Hadley  
Division of Disability Resources and Educational Services: Kim Collins (interim)  
Chez Veterans Center: Reginald Alston (interim)

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