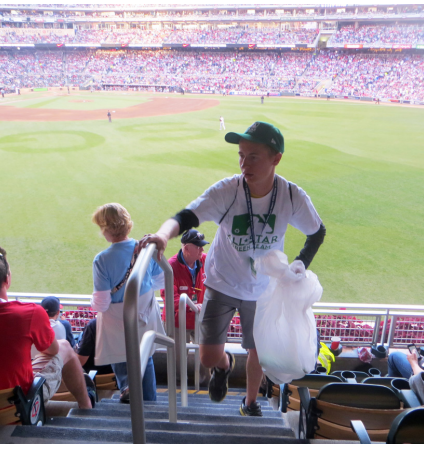
ILLINOIS
College of Applied Health Sciences

MOVING FORWARD

> If you want **happiness** for a lifetime—**help others.**
>
> —Chinese Proverb



MESSAGE FROM THE DEAN

Like so many public institutions, the University of Illinois has come to rely more and more upon the generosity of private donors who support its land-grant mission. Last fall, the University launched an ambitious new capital campaign, called With Illinois, to raise money in support of our students and faculty, research, and infrastructure. The College of Applied Health Sciences shares the University's goals of recruiting and retaining the brightest students and the most skilled faculty, engaging in impactful research that translates into real-world settings, and offering our programs in state-of-the-art facilities that enhance the educational process. In this issue of *Moving Forward*, you will read more about the AHS priorities for the campaign and we will introduce you to the Board of Visitors, a newly-formed advisory board of alumni, students, and friends of the college who have enthusiastically agreed to play a role in our success.

One focus of our capital campaign is to support our Collaborations in Health, Aging, Research and Technology initiative, which is directed by Dr. Wendy Rogers. An expert in aging and technology, Dr. Rogers has long been investigating the use of technology to enhance quality of life for older adults and to facilitate aging at home. In April, we celebrated her investiture as the fifth Shahid and Ann Carlson Khan Professor of Applied Health Sciences. You will learn more about Dr. Rogers and the CHART initiative in these pages.

Dr. Rogers and seven other outstanding individuals joined our faculty last year, and you'll meet them within. We honored two incredible alumni last October, AHS Distinguished Alumni Award recipient Mannie Jackson and Harold Scharper Award recipient Jean Driscoll, and we'll tell you more about them.

Last March, the Department of Recreation, Sport and Tourism hosted a first-of-its-kind symposium dedicated to the use of sport for community development and peacebuilding. Scholars came from all over the world to attend the two-day event, sharing the challenges and rewards of being involved in this field. In this magazine, we present a snapshot of the issues the symposium addressed.

Many undergraduate students at Illinois engage in study abroad programs to enrich their education. For too long, this aspect of the student experience was largely inaccessible to students with disabilities. Our Division of Disability Resources and Educational Services stepped in to help level this particular playing field, and you'll meet three students whose disabilities did not stop them from broadening their educations in France, New Zealand, and Hong Kong.

As always, we highlight some of the research taking place in the college, this time with pieces on gut health, virtual nature, and toy talk. And we'll tell you about a clinic that is applying research in the area of motor control to teach community residents about their fall risk and how to stay upright.

I am so proud to be the dean of this phenomenal college. This issue of *Moving Forward* captures just the tip of the iceberg of wonderful things that take place here every day. I hope you enjoy reading about some of our accomplishments, and that it adds to your pride in being affiliated with AHS and the University of Illinois. I invite you back to campus to learn more about the many things we are doing!

Sincerely,

Cheryl Hanley-Maxwell

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

WITH ILLINOIS. WITH AHS.

LAST FALL, THE UNIVERSITY OF ILLINOIS KICKED OFF AN AMBITIOUS FUNDRAISING CAMPAIGN KNOWN AS **WITH ILLINOIS**, OR **WITH I**, SETTING $2.25 BILLION AS ITS GOAL. CAMPAIGN PRIORITIES INCLUDE STUDENT, FACULTY, AND RESEARCH SUPPORT, AS WELL AS INFRASTRUCTURE AND PROGRAMMATIC ENHANCEMENTS.

THE COLLEGE OF APPLIED HEALTH SCIENCES HAS SET A CAMPAIGN GOAL OF $55 MILLION TO FUND A VARIETY OF PRIORITIES THAT REFLECT THE UNIVERSITY'S INTEREST IN STRENGTHENING ITS PEOPLE, PROGRAMS, AND PLACES.

FACILITIES FOR THE FUTURE OF AHS

A major priority of the campaign is the creation of an interdisciplinary hub for research, outreach, education, and clinical services related to health, aging, and disability. The hub will include the Living in Interactive Future Environments (LIFE) Home, already funded, which will house collaborative research on next-generation smart technologies that help older adults and those living with disabilities and chronic disease to live independent and healthier lives in their homes and communities. The nearly 8,000-square-foot facility includes a model two-bedroom home in which new technologies will be tested under realistic conditions.

LIFE Home | LIVING IN INTERACTIVE FUTURE ENVIRONMENTS

A second facility in the hub would serve as the new home of the College of Applied Health Sciences. The proposed 100,000-square-foot facility will include research and fabrication labs, classrooms, offices, meeting and presentation rooms, and clinical space. Existing clinical services, such as those offered by the Department of Speech and Hearing Science in speech-language pathology and audiology, will be housed in the building, which will be large enough to accommodate future clinical service needs as well.

"There is interest in developing graduate programs in physical therapy and occupational therapy at Illinois, both of which would require clinical space," said AHS Dean Cheryl Hanley-Maxwell. "Additionally, there is strong campus and community interest in interdisciplinary research, education, engagement, and clinical services related to health, aging, and disability. The hub will help the College meet its mission while capitalizing on these emerging interests."

ENHANCING STUDENT AND FACULTY RESOURCES

An important priority for campaign funds is student scholarship support. The College has set a $2.5 million goal to increase endowed and current use scholarship funds. An additional $2.5 million will go toward establishing at least five new endowed professorships. "The quality of the programs we offer is impacted greatly by the quality of our students and our faculty. We want all the members of our community to be outstanding. Scholarships and endowed professorships help us to attract and retain the very best," said Dean Hanley-Maxwell.

AHS also is committed to supporting faculty in sharing the wealth of knowledge gained through collaborative research, particularly with the College of Engineering and the Carle Illinois College of Medicine, by sponsoring lecture series, symposiums, and other outreach efforts, and was recently awarded $2 million to support these efforts.

CONTINUED SUPPORT FOR STUDENT VETERANS

Through this fundraising campaign, AHS hopes to raise $10 million to endow the Chez Center for Wounded Veterans in Higher Education. An endowment would allow for the ongoing provision of programs and services designed to help veterans of recent conflicts in their successful transition to life on campus and beyond. In just two short years, the Center has registered more than 130 students for services and reached capacity in its residential program. Center staff developed three classes exclusively for military-connected students and provided over 300 hours of clinical services, including counseling, physical therapy, speech-language pathology, and stress management.

Brent Blackwell, an undergraduate student in kinesiology with an eye on a medical career, was deployed to Afghanistan five times as a medic in the US Army. He appreciates that the Center has become a hub for veteran activity on campus.

"It's a place where you can lean on your fellow veterans for help," he said. "Chances are at least one of us has dealt with the same problems, whether it be financial aid, registration, course material, or whatever else." Other students affiliated with the Center feel it embodies a spirit of camaraderie that they've missed since leaving the service. All attest to the gratitude they feel as Center staff help them navigate the sometimes tricky waters of integrating into campus life while also accessing the programs and benefits available to them as military veterans.

SUPPORTING THE CAMPAIGN

The College of Applied Health Sciences has long been committed to improving the health and quality of life for diverse populations and communities across the lifespan. It has been a leader in research and innovation related to aging, physical fitness, recreation and leisure services, public health, and disability services, and continually rises to the new challenges that accompany expanded knowledge about health, aging, and disability.

Brent Blackwell

WE NEED YOUR HELP TO CONTINUE PURSUING OUR MISSION FAR INTO THE FUTURE BY SEEKING OUT NEW OPPORTUNITIES FOR COLLABORATION, DEVELOPING NEW EDUCATIONAL, RESEARCH, AND OUTREACH INITIATIVES THAT ADDRESS SOCIETY'S MOST PRESSING PROBLEMS, AND KEEPING OUR CLASSROOMS AND LABORATORIES FILLED WITH BRIGHT AND EAGER MINDS THAT ARE DEDICATED TO MAKING THE WORLD A BETTER PLACE.

For information on the **With Illinois** campaign, the **AHS priorities**, and how you can support the College, Contact: Brian Silotto or Janet Kroencke at 217. 333.2131

NEW BOARD SUPPORTS AHS

A newly formed advisory board within the College of Applied Health Sciences will assist the college as it pursues its fundraising goals. The Board of Visitors, which includes alumni, students, and business leaders, is charged with supporting the mission of AHS to improve the quality of life across the lifespan through research, education, and public engagement. In addition to working with Dean Cheryl Hanley-Maxwell to raise funds for critical initiatives, the Board will: provide feedback on the effectiveness of existing college initiatives; advise the dean on strengthening the college's national and international reputation; support AHS in securing, broadening, and enhancing professional opportunities for students and alumni; and serve as a liaison between AHS and the community.

Lynne Barnes, Senior Vice President of Operations for Carle Hospital and Physician Group in Urbana, said she joined the Board because she is excited about the future of AHS and the vision of its leaders. "There is so much more to the programs within the college than meets the eye," she said. "I want to be a part of the ongoing success and growth of the college as it continues to develop 'difference makers' in the next generation."

Members of the College of Applied Health Sciences' Board of Visitors are:

- **LYNNE BARNES MA '89**
  Senior Vice President of Operations, Carle Hospital and Physician Group, Urbana, IL
- **SCOTT BECHTEL**
  Operating Principal, Keller Williams Realty, and Owner, The Bechtel Group, Champaign, IL
- **DAVID BOBERT BS '71**
  Founder/CEO, The AIR-serv Group of Companies, Dennison MN
- **JOHN CONSALVI MA '91**
  Clinical Vice President of Pediatric and School Services, Healthpro-Heritage-Linguahealth, Northbrook, IL
- **AMI DESHPANDE**
  Senior, Interdisciplinary Health Sciences degree program
- **ROBERT ESPESETH**
  Emeritus Associate Professor, Department of Recreation, Sport and Tourism
- **ELIZABETH HEISLER BS '11, MA '14**
  Speech Pathologist, Henry Stark Special Education, Kewanee, IL
- **SAVANNAH HUBLY BS '17**
  Graduate student, Department of Speech and Hearing Science
- **MANNIE JACKSON BS '60**
  Chairman and Managing Partner, Boxcar Holdings LLC, Las Vegas, NV
- **KAREN MCKECHNIE BS '70**
  Retired Teacher and Medical Office Administrator; Current Philanthropist and Full-time Grandmother
- **SAUL MORSE BA '69, JD '72**
  Attorney, Brown Hay and Stephens LLP, Springfield, IL
- **MICHAEL RAYCRAFT MA '96, PHD '01**
  Lecturer, Department of Recreation, Sport and Tourism

PLAYING FOR PEACE

LAST MARCH, AN UNUSUAL EVENT TOOK PLACE AT THE UNIVERSITY OF ILLINOIS. SCHOLARS, STUDENTS, AND PRACTITIONERS WHO ARE INTERESTED IN USING SPORT TO DEVELOP COMMUNITIES AND PROMOTE PEACE CAME TOGETHER TO SHARE CHALLENGES, FRUSTRATIONS, AND SUCCESSES IN A TWO-DAY SYMPOSIUM SPONSORED BY THE DEPARTMENT OF RECREATION, SPORT AND TOURISM, ITS SPORT+DEVELOPMENT LAB, AND THE STUDENT ORGANIZATION PLAY FOR CHANGE.

Funded by the University of Illinois International Programs Office and the College of Applied Health Sciences' Center for Health, Aging, and Disability, the symposium was the first such forum dedicated to the field of Sport for Development and Peace (SDP), and attracted participants from the United States, Canada, Australia, the United Kingdom, and Japan.

Organizer and RST professor Dr. Jon Welty Peachey said the overarching goal of the symposium was to build bridges. "Scholars need to get beyond publishing for ourselves and seek outlets shared by practitioners in this area," he said. "Those of us who are developing and researching SDP programs need to find creative ways to engage with practitioners and provide reports and deliverables that are meaningful."

Delivering meaningful deliverables can be complicated by the expectations and demands of partners who fund SDP programs. The difficulty of partnerships was illuminated by the various symposium presenters, who discussed their experiences with institutions, agencies, and organizations in government, education, healthcare, and sports, as well as national, international, and community-based non-governmental organizations.

(L-R): Dr. Julian Woolf, Adelphi University; Dr. Jon Sugden, University of Brighton; Dr. Nico Schulenkorf, University of Technology Sydney

Dr. Emma Sherry, Swinburne University

Dr. Jon Welty Peachey, University of Illinois

HIDDEN AND NOT-SO-HIDDEN AGENDAS

In many cases, challenges came in the form of politics. Dr. John Sugden, emeritus professor of the Sociology of Sport at the University of Brighton in the United Kingdom, is widely considered to be the father of the modern SDP movement. He developed a program called Football 4 Peace (F4P) nearly 40 years ago as a tool for peace building and conflict resolution in Northern Ireland. The program uses sport to deliver values-based training aimed at promoting respect, responsibility, inclusion, neutrality, and equality. Since its first administration, F4P has been refined and used within divided communities in Israel, Jordan, and Palestine. In each case, Dr. Sugden sought the support of local governmental agencies to increase the program's chances of success.

"There's a lot of baggage that comes with getting in bed with government agencies," he said. In Israel, for example, tensions arose when the British Council wanted the program, as he put it, to "export British values and culture." At the same time, the Sports Authority of Israel wanted a stronger voice and more input on the program's administration. It can be tricky to navigate in waters that have become political, he said, but he cautioned SDP program providers to stay focused on their mission. "Make the most of opportunities without compromising your values," he said.

CULTURAL DISCONNECT

A recurring theme of the symposium was the importance of knowing the culture of the community in which the SDP program is offered. Dr. Emma Sherry, an associate professor and deputy chair of Management & Marketing at Swinburne University in Melbourne, Australia, recalled an SDP program in Papua, New Guinea, that had women attending a function at night. "In a country where gender roles are extremely conservative and patriarchal values extremely strong, this actually put them in danger of being assaulted," she said. "Our best intentions can have unintended consequences. We can't use our version of what would work. We need to put our own cultural preconceptions aside and respect that local community members know what is best for them."

Several presenters made the point that while it is difficult to quantify the success of SDP programs, one indication of a job well done is the ability of the local community to take over the running of the program. As Dr. Welty Peachey put it, "Make yourself obsolete. Transfer your skill set to local stakeholders over time, and let them take over monitoring and evaluating the program." It's a skill to know how to walk away, added Dr. Sugden. "Know when to do so, yet leave a sustainable program," he said.

LEVELING THE FIELD, HERE AND ABROAD

SINCE 1948, THE DIVISION OF DISABILITY RESOURCES AND EDUCATIONAL SERVICES (DRES) HAS WORKED TO ENSURE THAT STUDENTS WITH DISABILITIES HAVE EQUAL ACCESS TO ALL OF THE RESOURCES, PROGRAMS, AND ACTIVITIES OFFERED AT THE UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN, ACCESS, IN OTHER WORDS, TO THE FULL STUDENT EXPERIENCE. FOR A LARGE NUMBER OF STUDENTS AT ILLINOIS, THAT EXPERIENCE INCLUDES STUDYING ABROAD. THE UNIVERSITY OFFERS MORE THAN 300 STUDY ABROAD OPPORTUNITIES THROUGH ITS VARIOUS UNITS, RANGING FROM WINTER AND SPRING BREAK TRIPS TO ACADEMIC YEAR OPTIONS.

Research cited by NAFSA: Association of International Educators shows that studying abroad improves grade point averages, fosters intercultural understanding, and increases employability, among other things. DRES has been helping students with disabilities to access this aspect of the student experience since the 1960s. Susann Sears, formerly an access specialist with DRES, says this is in keeping with the philosophical underpinnings of DRES.

IS IT FEASIBLE?

"At DRES, we constantly strive to go above and beyond what the law requires to provide services to students with disabilities," said Ms. Sears, who is now the director of Beckwith Residential Support Services, a program for students with physical disabilities who require assistance in performing the tasks of daily living. "By collaborating with the campus and with faculty leading study abroad programs, we are able to make studying abroad accessible to registered DRES students."

She points out that even though students with disabilities pay tuition and participate in University of Illinois-sponsored study abroad programs, the Americans with Disabilities Act does not guarantee their right to access in countries other than the United States. So each program in which students with disabilities express interest must be researched thoroughly to make sure their participation is feasible.

"For example, if the essential requirements of a program include traveling between locations by bus, subway, or train, are those vehicles and stations going to be accessible to individuals in wheelchairs?" she said. "Students with non-visible disabilities, such as depression or anxiety, may require counseling support above and beyond other program participants. Are these services available? Are these diagnoses even recognized in the host country? We try to go over questions related to a selected study abroad opportunity exhaustively to minimize surprises."

> NOW THAT I KNOW I CAN TRAVEL, IT WILL OPEN UP OPPORTUNITIES FOR ME IN THE FUTURE. –CHELSEY

DEALING WITH CHALLENGES

The conditions in the host country aren't the only issue of concern to students with disabilities. The prospect of flying can itself be daunting. **Chelsey Baker**, a junior in Special Education, joined a nine-day spring break trip to France that focused on the French system of education. She recalls how her excitement about going abroad was tempered by her nervousness about flying.

"Prior to studying abroad, I had never been on an airplane. Getting on a plane might seem like one of the simpler aspects of going abroad, but I had heard a lot of stories about wheelchairs being damaged on flights and bad experiences traveling with medical equipment," she said. She uses a power chair, which can cost upwards of $30,000.

Her chair survived the flight. On the first day in France, however, she "fried" the power converter she was using to charge the chair. "The incompatibility of power in foreign countries with power chairs is one of the biggest issues we've heard about from our students," said Ms. Sears. "In some countries, you can't use a power chair at all and have to have someone push you around in a manual chair." In Chelsey's case, she and the trip organizers were able to locate a French wheelchair charger that didn't need a power adapter.

> TRAVELING REALLY CHANGES YOU. YOU SEE A WHOLE OTHER WORLD AND EXPERIENCE SOMETHING BEAUTIFUL. –AMELIA

Students who use power chairs typically have physical disabilities that prevent them from performing the tasks of daily living without assistance. Requiring a personal assistant can be another obstacle to traveling abroad. It was one of the biggest for **Amelia O'Hare**, a senior in urban planning and community development who went on a winter break trip to Hong Kong and Taiwan to study their resources for people with disabilities.

"Having to pay for a personal assistant to accompany me was the biggest obstacle I faced," she said. "Susann [Sears] helped me apply for an Enabled Abroad Scholarship, which was amazingly helpful." The scholarship is available to students who can demonstrate that they have costs associated with studying abroad that exceed the typical costs of the program in which they are participating.

Amelia'a destinations didn't support power chairs, so her personal assistant had to help her not only with activities of daily living but with getting around in a manual wheelchair. A previous travel experience in Europe hadn't prepared her for the level of inaccessibility she encountered in Hong Kong and Taiwan. "In Hong Kong, it was difficult to get around and even to get inside buildings. We found a way, but there were a lot of obstacles," she said.

TIM
NAGEL

> AT TIMES YOU MIGHT THINK, WHY AM I DOING THIS? WHY AM I STUCK IN THE MUD MILES AND MILES FROM HOME? BUT IN THE END, IT'S SO WORTH IT. –TIM

DO IT!

For some students, the educational purpose of the trip itself can be one of the biggest obstacles to address. **Tim Nagel**, now a graduate student in Recreation, Sport and Tourism, hoped to join a summer program in New Zealand. As an undergraduate, he was a member of the wheelchair basketball team, so traveling during the academic year was not feasible. The potential problem was that the trip focused on adventure tourism.

"It involved a lot of activities I can't do, such as hiking, climbing, going on rough trails," he said. "Initially, I was hesitant to pursue it because I thought it would be impossible."

He met with Ms. Sears, RST department head Laurence Chalip, and RST professor Jon Welty Peachey, the faculty advisor on the trip, anticipating disappointment. Instead, he found that much thought had already been given to alternative activities that he could do. "That's when I thought, 'Wow, they really want me to be able to go.' After that meeting, I really thought this was a trip I could do," he said.

He, Chelsey Baker, and Amelia O'Hare all describe their study abroad experiences as "amazing." Each encountered challenges that tested their resourcefulness and perseverance, but each took away greater confidence in their abilities to overcome obstacles and broaden their life experiences. Each was grateful to start their trips with the support of DRES behind them. And each shared the same advice with other students with disabilities who think they might want to study abroad: start planning early, work with the right people, go for it, and have a great time!

2017 HAROLD SCHARPER AWARD

“

I’M NOT A SELF-MADE SUCCESS

From left: Jean Driscoll with one of her inspirations, Olympic and Paralympic athlete Sharon Hedrick.

WHEELCHAIR RACER JEAN DRISCOLL EXPERIENCED AN ABUNDANCE OF SUCCESS IN HER COMPETITIVE YEARS. SHE EARNED FIVE GOLD, THREE SILVER, AND FOUR BRONZE MEDALS IN FOUR PARALYMPIC GAMES, AND ALSO WON TWO OLYMPIC EXHIBITION MEDALS. SHE IS AN EIGHT-TIME WINNER OF THE BOSTON MARATHON, AN ACCOMPLISHMENT THAT HAS YET TO BE MATCHED BY ANY WOMAN IN ANY DIVISION. IN EACH OF HER FIRST FIVE MARATHON WINS, SHE SET NEW WORLD RECORDS.

She also has achieved enormous success as a motivational speaker and was one of seven Presidential Delegates appointed by George W. Bush for the Beijing 2008 Paralympic Games.

When she accepted the 2017 Harold Scharper Award from the Division of Disability Resources and Educational Services (DRES) in recognition of her achievements, Ms. Driscoll humbly gave credit for her success to others. “Most people are products of the individuals who have played a role in their lives,” she said. “There are few, if any, self-made people.”

For her, those individuals included her family. “One of the biggest gifts my parents gave me was that they raised me like my siblings,” she said. And to her siblings, she was “just one of the crowd” who “competed for everything.”

There was the high school friend who introduced her to wheelchair sports, and Dr. Brad Hedrick, former wheelchair basketball coach and DRES director, who recruited her to the University of Illinois. “I was excited that somebody wanted me on their team. I was always the last kid picked for a team in physical education classes or during recess, and yet Brad wanted me on his team,” she said.

Marty Morse, then the coach of the wheelchair track team, got her interested in road racing and convinced her to do a marathon. “Marty saw something in me I didn’t see in myself,” she said. “I am not a self-made success.”

After retiring from competition, Ms. Driscoll went on to a career in fundraising, first for the College of Applied Health Sciences, where she played a key role in the College’s successful Brilliant Futures campaign, and then for the College of Liberal Arts and Sciences. She is now the executive director of development for the College of Design at North Carolina State University. In addition to AHS, her outstanding accomplishments have been recognized by the U.S. Olympic Committee, which inducted her into the Olympic Hall of Fame, and the State of Illinois, which awarded its highest honor to her, Laureate in the Order of Lincoln.

AGING AND TECHNOLOGY
EXPERT BECOMES FIFTH KHAN PROFESSOR

INTERNATIONALLY RENOWNED SCHOLAR DR. WENDY ROGERS WAS NAMED THE FIFTH SHAHID AND ANN CARLSON KHAN PROFESSOR OF APPLIED HEALTH SCIENCES IN AN INVESTITURE CEREMONY HELD ON APRIL 5, 2017. DR. ROGERS HAD JOINED AHS IN JANUARY, BRINGING HER RESEARCH PROGRAM IN HUMAN FACTORS AND AGING TO ILLINOIS FROM THE GEORGIA INSTITUTE OF TECHNOLOGY, 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.

Dr. Rogers' hiring was made possible through the Visioning Future Excellence campus initiative, which had approved a proposal made collaboratively by the College of Applied Health Sciences and the College of Engineering to hire a visionary scholar whose research addressed the intersection of aging, technology, and health.

"I think it's only fitting that she return here because her first presentation [on aging] took place on this campus," said Cheryl Hanley-Maxwell, dean of the College of Applied Health Sciences. The year was 1987 and Dr. Rogers had just begun her doctoral work at Georgia Tech. She presented a paper on age-dependent skills training at the Fourth Mid-Central Ergonomics/Human Factors Conference, which took place on the Urbana-Champaign campus of the University of Illinois. Now, hundreds of conference papers, journal publications, technical reports, books and book chapters later, she is a highly sought-after speaker across the United States and around the world and widely considered one of the foremost authorities on healthy aging.

When Dr. Rogers began her work, successful aging was measured by the ability to perform the activities of daily living, such as bathing and eating, and instrumental activities of daily living, such as paying bills and cleaning the house. "Dr. Rogers added a new component to this model by looking at enhanced activities of daily living to include quality of life activities such as social communication, hobbies, volunteering, and being part of the community," Dean Hanley-Maxwell said. "She spoke to the overall quality of life and recognized early on that aging individuals want more from their lives than the basic necessities."

In remarks made at the investiture ceremony, Dr. Rogers noted that by 2050, 1.5 billion people will be 65 and older and will have a wide-ranging impact on health care, social, and economic systems. She recalled being an invited participant at a World Health Organization meeting on aging, which she left thinking, "How am I contributing? How can we bring technology into play?" Two weeks later, she received the announcement of the position at Illinois. "The AHS mission statement matched so closely with my own personal mission that I had to come," she said. Here at Illinois, she is the director of the Collaborations in Health, Aging, Research, and Technology (CHART) initiative in AHS, and is overseeing the development of the Living in Interactive Future Environments (LIFE) home (see sidebars next page).

Dr. Rogers is a Certified Human Factors Professional and a Fellow of the Gerontological Society of America and the Human Factors and Ergonomics Society. She has received the Oliver Hansen Outreach Award and the Paul M. Fitts Education Award from the Human Factors and Ergonomics Society, and the Franklin V. Taylor Award for Outstanding Contribution to the Field of Applied Experimental and Engineering Psychology from the American Psychological Association.

"DR. ROGERS SPOKE TO THE OVERALL QUALITY OF LIFE AND RECOGNIZED EARLY ON THAT AGING INDIVIDUALS WANT MORE FROM THEIR LIVES THAN THE BASIC NECESSITIES.

–DEAN CHERYL HANLEY-MAXWELL

"WE NEED A NEW BREED OF PROFESSIONALS WHO ARE TRAINED TO DESIGN, DEVELOP, TEST, AND IMPLEMENT USER-FRIENDLY TECHNOLOGIES THAT WILL PRESERVE THE INDEPENDENCE OF DIVERSE POPULATIONS OF AGING INDIVIDUALS AND PROMOTE HEALTH AND WELL-BEING."
–JEFF WOODS

CHARTing A Healthy Future

Dr. Wendy Rogers is the director of Collaborations in Health, Aging, Research, and Technology (CHART), a research theme within the College of Applied Health Sciences and its Center on Health, Aging, and Disability (CHAD). It is designed to facilitate successful aging through fundamental and translational research, advanced technology development, educational and community outreach programs, and policy guidance.

The result of a joint proposal by AHS and the College of Engineering to leverage campus, community, and corporate resources to enable successful aging, CHART held its first symposium on November 6, 2017. National and international scholars, providers of services for older adults, and professionals from healthcare and business came together to address challenges to successful aging and to identify opportunities for collaboration.

"This initiative started as a partnership with engineering, but many units on campus can contribute, and there also is room for liaisons with industry and community organizations," said CHAD director Dr. Jeff Woods. "We need a new breed of professionals who are trained to design, develop, test, and implement user-friendly technologies that will preserve the independence of diverse populations of aging individuals and promote health and well-being."

The LIFE Home

Under the auspices of the CHART program, the College of Applied Health Sciences will build a research facility on the south campus known as the Living in Interactive Future Environments (LIFE) Home. The purpose of the home is to design and test cost-effective technologies that assist older adults and those living with disabilities and chronic disease to live independently by facilitating self-care, social interaction, and health promotion and monitoring.

The facility will mimic the typical home of today, with a first floor consisting of a two-bedroom living facility with attached garage. Many of the new technologies will be developed within a mechanotronics lab housed within the LIFE Home, which also will include classrooms, meeting and office spaces, and rooms for community engagement activities.

The LIFE Home is envisioned to be a hub of research, education, and outreach related to technology and aging, with stakeholders across campus and from medical, insurance, and smart home industries.

PROUD TO BE A PHILANTHROPIST

MANNIE JACKSON HAS BEEN LAUDED FOR HIS SHARP BUSINESS SENSE AND ENTREPRENEURIAL SPIRIT. OF ALL HIS MANY ACHIEVEMENTS, HOWEVER, MR. JACKSON SAYS HIS MOST IMPORTANT IS BEING A PHILANTHROPIST.

THE COLLEGE OF APPLIED HEALTH SCIENCES HONORED MR. MANNIE JACKSON'S OUTSTANDING PERSONAL AND PROFESSIONAL ACCOMPLISHMENTS WITH ITS 2017 DISTINGUISHED ALUMNI AWARD IN A CEREMONY HELD ON OCTOBER 27, 2017.

FROM BOXCAR TO BOARDROOMS

Mannie Jackson was born and lived for three years in a boxcar in Illmo, Missouri. After moving to Edwardsville, Illinois, he became a stand-out player in basketball and earned a full scholarship to the University of Illinois. He and his best friend Govoner Vaughn were the first African American starters for the Fighting Illini and the first to earn varsity letters. Mr. Jackson also was the first African American team captain.

He went on to work and play for the Technical Tape Corporation, which had a team in the National Industrial League, before joining the Harlem Globetrotters. He followed his basketball career with a successful career in business, working first for General Motors and then for Honeywell, from which he retired as international senior vice president of marketing, administration, and logistics. At the time of his retirement, Mr. Jackson was serving on the Board of Directors of six Fortune 500 companies.

GIVING BACK

Mannie Jackson returned to the world of professional basketball after retiring as the first African American owner of a major sports franchise when he bought the nearly-bankrupt Harlem Globetrotters. He not only restored the team to international fame and fortune, but also made it a leader in charitable giving.

Mr. Jackson endowed the Mannie L. Jackson Illinois Academic Enrichment and Leadership Program (I-LEAP) in the College of Applied Health Sciences, which provides academic and personal support services to first-generation and underrepresented college students. His gift to Lewis and Clark College helped to establish the Mannie Jackson Center for the Humanities.

In accepting the 2017 Distinguished Alumni Award, Mr. Jackson said, "I like being called a philanthropist. When you decide to be a philanthropist and you help others and improve the world, when you go, the legacy and the memory of what your family meant to the world and what you tried to accomplish lives forever."

Mr. Jackson is a two-time inductee into the Naismith Memorial Basketball Hall of Fame, as an owner and as a player. He was named Laureate in the Order of Lincoln, the State of Illinois' highest honor. He also received the NCAA's highest honor, the Theodore Roosevelt Award, and the University of Illinois Alumni Achievement Award, the highest honor bestowed upon alumni by the University of Illinois Alumni Association.

> I LIKE BEING CALLED A PHILANTHROPIST. WHEN YOU DECIDE TO BE A PHILANTHROPIST AND YOU HELP OTHERS AND IMPROVE THE WORLD, WHEN YOU GO, THE LEGACY AND THE MEMORY OF WHAT YOUR FAMILY MEANT TO THE WORLD AND WHAT YOU TRIED TO ACCOMPLISH LIVES FOREVER. –MANNIE JACKSON

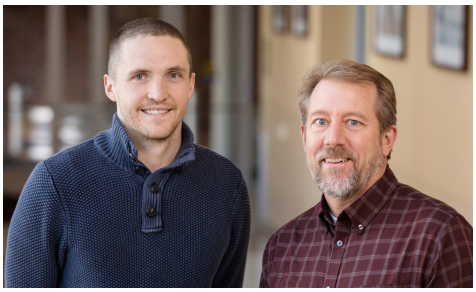
EXERCISE CAN IMPROVE GUT HEALTH

Diana Yates, Life Sciences Editor
University of Illinois News Bureau

TWO STUDIES—ONE IN MICE AND THE OTHER IN HUMAN SUBJECTS—OFFER THE FIRST DEFINITIVE EVIDENCE THAT EXERCISE ALONE CAN CHANGE THE COMPOSITION OF MICROBES IN THE GUT. THE STUDIES WERE DESIGNED TO ISOLATE EXERCISE-INDUCED CHANGES FROM OTHER FACTORS—SUCH AS DIET OR ANTIBIOTIC USE—THAT MIGHT ALTER THE INTESTINAL MICROBIOTA.

In the first study, scientists transplanted fecal material from exercised and sedentary mice into the colons of sedentary germ-free mice, which had been raised in a sterile facility and had no microbiota of their own. In the second study, the team tracked changes in the composition of gut microbiota in human participants as they transitioned from a sedentary lifestyle to a more active one—and back again.

"These are the first studies to show that exercise can have an effect on your gut independent of diet or other factors," said Jeffrey Woods, professor of Kinesiology and Community Health and director of the Center on Health, Aging, and Disability within the College of Applied Health Sciences. He led the research with former doctoral student Jacob Allen, now a postdoctoral researcher at Nationwide Children's Hospital in Columbus, Ohio. The work with mice was conducted at the U. of I. and with scientists at the Mayo Clinic in Rochester, Minnesota, who develop and maintain the germ-free mice. The work in humans was conducted at Illinois.



KCH doctoral student Jacob Allen and Dr. Jeffrey Woods

In the mouse study, changes in the microbiota of recipient mice mirrored those in the donor mice, with clear differences between those receiving microbes from exercised and sedentary mice. “That proved to us that the transplant worked,” Woods said.

Recipients of the exercised mouse microbiota also had a higher proportion of microbes that produce butyrate, a short-chain fatty acid that promotes healthy intestinal cells, reduces inflammation and generates energy for the host. They also appeared to be more resistant to experimental ulcerative colitis, an inflammatory bowel disease. “We found that the animals that received the exercised microbiota had an attenuated response to a colitis-inducing chemical,” Allen said. “There was a reduction in inflammation and an increase in the regenerative molecules that promote a faster recovery.”

In the human study, the team recruited 18 lean and 14 obese sedentary adults, sampled their gut microbiomes, and started them on an exercise program during which they performed supervised cardiovascular exercise for 30-60 minutes three times a week for six weeks. The researchers sampled participants’ gut microbiomes again at the end of the exercise program and after another six weeks of sedentary behavior. Participants maintained their usual diets throughout the course of the study.

Fecal concentrations of SCFAs, in particular butyrate, went up in the human gut as a result of exercise. These levels declined again after the participants reverted to a sedentary lifestyle. Genetic tests of the microbiota confirmed that this corresponded to changes in the proportion of microbes that produce butyrate and other SCFAs.

The most dramatic increases were seen in lean participants, who had significantly lower levels of SCFA-producing microbes in their guts to begin with. Obese participants saw only modest increases in the proportion of SCFA-producing microbes. The ratios of different microbes in the gut also differed between lean and obese participants at every stage of the study, the researchers said. “The bottom line is that there are clear differences in how the microbiome of somebody who is obese versus somebody who is lean responds to exercise,” Woods said. “We have more work to do to determine why that is.”

The Mayo Clinic-University of Illinois Alliance for Technology-based Healthcare and the National Institute of Diabetes and Digestive Kidney Diseases supported the study in mice. The human study was partially funded by a doctoral student research grant from the American College of Sports Medicine.

> THE BOTTOM LINE IS THAT THERE ARE CLEAR DIFFERENCES IN HOW THE MICROBIOME OF SOMEBODY WHO IS OBESE VERSUS SOMEBODY WHO IS LEAN RESPONDS TO EXERCISE.
>
> – JEFFREY WOODS

IS VIRTUAL AS GOOD AS REAL?

DR. MATT BROWNING WANTS PEOPLE TO SPEND MORE TIME OUTDOORS. AN ASSISTANT PROFESSOR IN THE DEPARTMENT OF RECREATION, SPORT AND TOURISM, HIS RESEARCH IS ROOTED IN ENVIRONMENTAL PSYCHOLOGY, WHICH ADDRESSES THE INTERACTION BETWEEN PEOPLE AND THEIR SURROUNDINGS. HE HAS EXAMINED WAYS TO CONNECT CHILDREN WITH NATURE WHILE SUSTAINING THE NATURAL ENVIRONMENT AND TO ENHANCE THE PERCEIVED VALUE OF NATURE CENTERS TO RESIDENTS OF THE SURROUNDING COMMUNITIES.

Spending time in nature has been shown to have a number of benefits, including improvements in short-term memory, mental energy, concentration, and mental and physical health, and reductions in stress and inflammation. What about people who don't have access to the outdoors, those who live in cities with limited green space or those who may be unable to get outside because of health issues, age, and other factors? How can they derive the benefits of nature?

In his most recent research, Dr. Browning is exploring the potential of virtual nature as a substitute for the real thing. A study he recently completed may be the first of its kind to make an explicit comparison of the benefits derived from virtual versus real nature. Study participants were taken to a nature center and randomly assigned to one of three conditions: sitting inside staring at a blank wall; going outside for a short walk, followed by spending time in an old growth forest; or having a 360-degree virtual reality experience of the old growth forest.

Participants were asked to describe their mood and whether they felt their experience was restorative. Dr. Browning also collected physiological data on skin conductance and heart rate variability, two measures of the mind's impact on the function of the autonomic nervous system.

While the physiological data was still being analyzed at press time, Dr. Browning reported that data collected on participants' psychological state indicated no differences between those in the virtual setting and those outdoors. Both groups responded positively to their experiences, while the mood of the group that remained inside staring at a wall either remained the same or worsened. This is an encouraging result, but Dr. Browning issued a caveat. "Many of the participants hadn't used a virtual reality headset before, so I think the next step in this research is to examine to what extent the effect can be attributed to the novelty of the situation," he said. "If we take a walk in the woods every day for a week, we'll see new things each time. If we view the same virtual reality environment day after day, it might be less engaging and the positive effect might wear off."

He hopes to follow up with a study where people who have been hospitalized for treatment of chronic anxiety and depression view virtual reality nature environments both in the treatment facility and for 30 days after discharge. By examining the severity of their symptoms throughout the study period as well as remission rates, Dr. Browning hopes to gain insight into what he calls the novelty effect.

NATURE PLAYS A CRITICAL ROLE

In addition to studies in the field, Dr. Browning is pursuing research in his Virtual Reality and Nature Lab to determine which qualities of simulated nature offer the greatest benefit and whether different combinations of qualities are required to achieve different goals, such as reducing stress, improving physical health, or increasing concentration. To test this, he is enhancing the experience of the virtual reality headset by adding natural sounds, scents, and physical sensations.

Through his virtual reality research, as well as research on the impact exposure to nature has on health care expenditures and academic achievement, Dr. Browning is adding to the growing body of knowledge about the critical role natural spaces play in the quality of our lives. He hopes his findings not only motivate individuals to interact with nature on a regular basis, but also encourage policy makers and budget managers to invest more in establishing and maintaining green spaces within their communities.

Dr. Matt Browning and
RST student Mitchell Fransen

KEEPING THINGS IN BALANCE

FALLS CAN BE A SERIOUS THREAT FOR OLDER ADULTS.
ACCORDING TO THE CENTERS FOR DISEASE CONTROL AND PREVENTION:

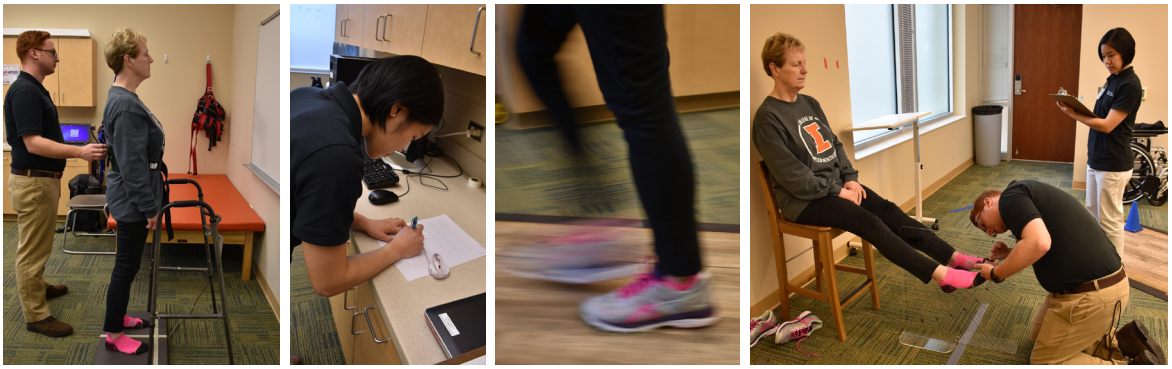
- One in four US adults aged 65 and older will fall each year
- Falls are the leading cause of fatal injury among US residents aged 65 and older, resulting in more than 27,000 deaths annually
- Falls are the most common cause of nonfatal trauma-related hospital admissions among older adults, resulting in more than 2.8 million injuries treated in emergency departments and more than 800,000 hospitalizations annually
- The average hospital cost for a fall injury is $30,000.

IF IT SEEMS THAT FALLS ARE INEVITABLE, THERE IS GOOD NEWS: FALLS CAN BE PREVENTED IF YOU KNOW YOUR RISK LEVEL, WHERE YOUR WEAKNESSES LIE, AND HOW TO IMPROVE THOSE WEAKNESSES. THE ILLINI FALL PREVENTION CLINIC WAS CREATED EXPRESSLY TO PROVIDE THE SURROUNDING COMMUNITY WITH THE INFORMATION AND TOOLS NEEDED TO PREVENT FALLS.

CUSTOM-TAILORED INTERVENTION

The brainchild of Dr. Jake Sosnoff, associate professor in the Department of Kinesiology and Community Health, the Illini Fall Prevention Clinic was founded on more than a decade of his research on neurophysiological and behavioral factors related to motor control and falling. In addition to healthy individuals of all ages, he has investigated issues related to mobility, balance, and gait in people with Multiple Sclerosis, chronic kidney disease, and spinal cord injuries.

"As a society, we tend to treat falls reactively and don't become concerned until people suffer an injury, such as breaking a wrist or hip," he said. "We are really good at mending broken bones, but we don't really address the underlying causes of the falls. I have all this sophisticated equipment and the research results to show that we can help to prevent falls through an evidence-based approach, and I want to share that with the larger community."



Dr. Cheryl Hanley-Maxwell, dean of the College of Applied Health Sciences, had her fall risk assessed by Tyler Wood and Katherine Hsieh in the Illini Fall Prevention Clinic. She was happy to learn her risk was low!

Dr. Jake Sosnoff

People who come into the clinic go through a four-part consultation that takes into account things such as balance, leg strength, vision, and body awareness. The measurements are suitable for all level of skills and functional abilities. Data from the various tests are compiled into a fall risk score and used to develop individualized prevention strategies to meet the client's specific needs. Tyler Wood, a licensed athletic trainer and PhD student who is the lead trainer in the clinic, says the main issues they see are deficits in lower body strength, balance, and reaction time.

"Based on each individual's results, we work out an intervention plan tailored to their particular needs," he said. "We give them a set of exercises that they can do at home, and we make sure they can do them properly before they leave the lab." Clients are encouraged to return to the clinic six months later so that their progress can be measured and their intervention plans updated, if necessary.

Not only is the clinic providing potentially lifesaving screening, but it also serves as a learning opportunity for undergraduate students in the College of Applied Health Sciences to gain real-life clinical experience working with a diverse group of older adults. Currently, more than 15 undergraduates contribute to the clinic.

EXTENDING THE REACH

Because Dr. Sosnoff and his team recognize that not everyone can make it into the clinic in Huff Hall, they take the clinic to other venues such as retirement homes and churches when needed. Since opening the clinic in late spring of 2016, they have assessed the fall risk of more than 130 people in the surrounding community.

Working with his former doctoral students Doug Wajda, now an assistant professor of exercise science at Cleveland State University, and Jason Fanning, now an assistant professor of health and exercise science at Wake Forest University, Dr. Sosnoff developed a smart phone app that accurately assesses fall risk and provides personalized suggestions on ways to minimize risk. With support from the Collaboration in Health, Aging, Research, and Technology (CHART), the app was tested at Clark-Lindsey Village, a retirement community in Urbana. Dr. Sosnoff's team recently partnered with Dr. Sanjiv Jain of Carle's Bone Health and Osteoporosis Clinic to test a new system that enables seniors to complete their own fall risk assessment without clinical oversight. Preliminary data suggests that the system accurately measures fall risk and that users enjoy it. His team is currently working on the system's ability to provide feedback and individualized prevention strategies.

Dr. Sosnoff's overarching goal is to make falling avoidable rather than inevitable. "People come into the clinic because they've noticed changes with aging and don't know what to do about them, or they bring in an aging parent or a spouse they're concerned about," he said. "We want to give them objective evidence that helps them understand what they're dealing with, as well as concrete steps to promote functional independence and quality of life."

For more information on the Illini Fall Prevention Clinic and its services, or to schedule an assessment, visit www.illinifallclinic.com.

TOY TALK

PROMOTES LANGUAGE DEVELOPMENT

THE QUANTITY AND QUALITY OF INTERACTIONS BETWEEN PARENTS AND CHILDREN ARE CRITICAL IN EARLY LANGUAGE DEVELOPMENT. RESEARCH HAS SHOWN THAT THE MORE LANGUAGE-RICH INTERACTIONS CHILDREN HAVE WITH THEIR PARENTS, THE FASTER THEY LEARN WORDS AND THE BETTER THEY UNDERSTAND THEM. THE QUALITY OF THE INTERACTION IS ALSO IMPORTANT, ESPECIALLY IN TERMS OF THE RESPONSIVENESS OF PARENTS TO CHILDREN'S ATTEMPTS TO COMMUNICATE.

Language interventionists have typically relied upon three main language modeling strategies when working with parents to increase their responsiveness. The first, responsive labeling, occurs when the parent labels an object that the child is playing with, saying, for example, "That's a baby." In self-talk, parents describe their own actions with the toy, for example, "I'm rocking the baby." Parallel talk involves the parent describing the child's actions with the toy, for example, "You're feeding the baby." Research has shown that these language modeling strategies lead to increases in the vocabulary used by toddlers and the length of sentences they produce. Dr. Pamela Hadley and Dr. Matthew Rispoli, associate professors in the Department of Speech and Hearing Science, were concerned that the language modeling strategies did not do enough to increase toddlers' development of syntax, or the way words are combined to form sentences.

"These strategies—responsive labeling, self-talk, and parallel talk—actually reduce the diversity of the words in the input to the child, specifically in the number of different words that appear as sentence subjects," Dr. Hadley said. "They promote pronoun subjects such as *it, that, you, and I* to the exclusion of vast numbers of possible noun subjects."

To increase the number of different words appearing as sentence subjects during interactions with children, Drs. Hadley and Rispoli designed a new language modeling strategy they call toy talk. The strategy shifts parent-child talk during play from the interpersonal space, or what the parent and child are doing, to descriptive talk about the toy itself, such as its location, properties, or actions in the play environment. Parents also are taught to give the object its name.

"Consider a child holding a bottle to a doll's mouth," Dr. Hadley said. "Instead of responding with 'That's a bottle,' which is labeling, or 'You're feeding the baby,' which is parallel talk, the parent could say, 'The baby likes her juice' or 'The juice is gone.' That's toy talk." Both toy talk sentences have noun subjects rather than pronouns, a subtle shift, she notes, but one that creates opportunities for parents to produce more diverse sentences.

It sounds simple but, perhaps surprisingly, toy talk sentences with nouns in the subject position are rare in naturally-occurring conversations between adults and young children, Dr. Rispoli noted. "It is much more common for adults to ask children questions—'Are you feeding the baby?'—or to direct their behavior—'Give the baby more juice'—or to make descriptive statements using pronoun subjects—'It's all gone,'" he said.

> CONSIDER A CHILD HOLDING A BOTTLE TO A DOLL'S MOUTH. INSTEAD OF RESPONDING WITH 'THAT'S A BOTTLE,' WHICH IS LABELING, OR 'YOU'RE FEEDING THE BABY,' WHICH IS PARALLEL TALK, THE PARENT COULD SAY, 'THE BABY LIKES HER JUICE' OR 'THE JUICE IS GONE. THAT'S TOY TALK. – DR. HADLEY

Dr. Pamela Hadley and Dr. Matthew Rispoli

The challenge of language acquisition has been described as putting words together. "But maybe the challenge is pulling words apart," he said. "When children consistently hear phrases such as 'It's a doll,' 'That's a horse,' and so on, the subject and the verb get chunked together. The child may not understand that 'itsa' and 'thatsa' are actually three separate words."

With funding from the National Institute of Child Health and Human Development, Drs. Hadley and Rispoli evaluated the effectiveness of toy talk in a study that taught parents of toddlers how to use toy talk in both group and individualized coaching sessions over a three-month period. Their study demonstrated that not only did parents' use of toy talk sentences increase following the instruction, but also that their use of toy talk predicted children's rate of growth in the production of diverse simple sentences and other crucial elements of syntactic development over the following six months.

"We think toy talk works, in part, because the diversity of noun subjects in parents' input makes it easier for children to identify the boundary between a subject and a verb," Dr. Hadley said. She and Dr. Rispoli emphasized that toy talk is not a replacement for other language modeling strategies. "Rather, it should be integrated with other strategies to interpret and expand children's communication attempts and to model diverse combinations of words within simple sentence structure," she said.

Because toy talk represents a relatively minor modification of familiar language modeling strategies, both scholars believe it can be incorporated rapidly into existing clinical practice.

NEW FACULTY IN AHS

PASQUALE BOTTALICO

Assistant Professor
Department of Speech and Hearing Science

After completing his Ph.D. in acoustical metrology at the Polytechnic University of Turin, Italy, Dr. Bottalico worked as an environmental and building acoustics consultant before co-founding PR.O.VOICE S.R.L. The company develops vocal dosimeters, which can be used by speakers and singers to measure vocal fatigue. In 2014, he was recruited by Dr. Eric Hunter of Michigan State University to serve as a research associate in the Department of Communicative Sciences and Disorders. His general research interest is in how acoustics influence how we produce sound and how it is perceived. His recent research addresses factors that affect intelligibility in classrooms, such as vocal fatigue, room acoustics, and voice disorders. Guidelines for designing classrooms exist, but he has found that what is acoustically perfect for listeners (the students) may not be so for speakers (the teachers). He is interested in determining how environmental acoustics interact with speakers and listeners, and how sound reflection can be modified to optimize each groups' experience.

NEHA GOTHE

Assistant Professor
Department of Kinesiology and Community Health

Dr. Gothe completed her Ph.D. in Kinesiology at the University of Illinois at Urbana-Champaign. She went on to a tenure-track position at Wayne State University in Detroit, in the Division of Kinesiology, Health and Sport Studies. Her research, which focuses on the impact of yoga on cognitive function, already has shown that yoga is superior to stretching and strengthening exercises in enhancing cognition. At Wayne State, she began to use imaging techniques to compare the brains of longtime yoga practitioners to individuals who did not do yoga, and found that the brains of yoga practitioners showed more efficient neural connections. Dr. Gothe's ultimate goal is to establish a scientific evidence base for yoga and share its health benefits with a larger audience by delivering yoga programs through technology and web-based resources.

THE REPUTATION OF THE UNIVERSITY OF ILLINOIS…THE EXCELLENCE OF PROGRAMS WITHIN THE COLLEGE OF APPLIED HEALTH SCIENCES AND ACROSS CAMPUS…THE LIFE-CHANGING RESEARCH THAT IS TAKING PLACE…THE OUTSTANDING RESOURCES AND SUPPORT FOR INTERDISCIPLINARY COLLABORATIONS…THESE ARE SOME OF THE REASONS THE NEWEST MEMBERS OF OUR FACULTY GAVE FOR JOINING OUR INSTRUCTIONAL UNITS.

KEIKO ISHIKAWA

Assistant Professor
Department of Speech and Hearing Science

After earning undergraduate and graduate degrees in vocal performance and pedagogy, Dr. Ishikawa pursued her interest in speech-language pathology. She earned her master's degree at the University of Cincinnati and worked for two years in the Voice and Speech Laboratory of the Massachusetts Eye and Ear Infirmary in Boston. Her desire to deepen her understanding of the challenges faced by individuals with dysphonia, or disordered voices, led her to doctoral study. She completed her Ph.D. in the Department of Communication Sciences and Disorders at the University of Cincinnati. Her research focuses on the intelligibility of speakers with speech and voice disorders. She has examined the effect of background noise on the intelligibility of dysphonic speech, and applied landmark-based analysis to the characterization of dysphonic speech in children and adults. Her research goal is to increase the intelligibility of disordered speech and voice. She also plans to contribute to the development of an automatic measure of intelligibility that will eliminate variations in speech perception that can prevent clinicians from making optimal choices for therapeutic intervention.

ADAM KONOPKA

Assistant Professor
Department of Kinesiology and Community Health

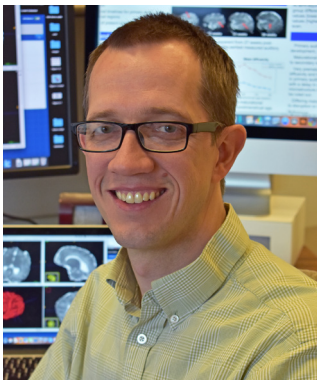
After completing his Ph.D. in Human Bioenergetics at Ball State University in 2012, Dr. Konopka joined the Mayo Clinic College of Medicine as a postdoctoral research fellow in Endocrinology. He then joined Colorado State University in 2015 as a postdoctoral research fellow in the Department of Health and Exercise Science. His research addresses aging metabolism and physiology. One line of inquiry focuses on age-related osteoarthritis, a condition with which millions of older adults suffer that currently has no disease-modifying therapy. He is investigating the pathogenesis and treatment of age-related osteoarthritis by using a novel stable isotope to examine the production, maintenance, and function of new cells and organelles. In a second line of research, he is leveraging his established industry partnerships to implement an emerging technology called continuous glucose monitoring (CGM) that measures glucose values every 5 minutes for up to 10 days at a time. One of his goals is to use CGM to detect early warning signs of impaired glucose metabolism in order to prevent the development of Type 2 Diabetes.

NEW FACULTY

SHANNON MEJÍA

Assistant Professor
Department of Kinesiology and Community Health

Dr. Mejía's Ph.D. is from the College of Public Health and Human Sciences at Oregon State University. She joined AHS from a postdoctoral research fellowship in the Psychosocial Aging Group and Biosocial Methods Collaborative in the University of Michigan's Institute for Social Research. Dr. Mejía developed her interdisciplinary view of aging while working for seven years in long-term care as a developer of activities and technology. Her experience working with residents, caregivers, and families inspired Dr. Mejía to examine how older adults support their own health and well-being within the context their daily lives and interactions with others. She's particularly interested in the potential for monitoring technologies to provide visual feedback that translates daily subtle behaviors into actionable knowledge that older adults and their loved ones can leverage to support their own health and well-being. A second theme of Dr. Mejía's research is interconnectedness with others. Recently, she received funding to study a little-understood phenomenon—older couples' similarities in health and cumulative risk. She'll use longitudinal data from the 2006 – 2016 waves of the Health and Retirement Study to examine how couples' shared experiences contribute to their shared cumulative risk and the implications of this shared risk for future health.



BRIAN MONSON

Assistant Professor
Department of Speech and Hearing Science

Dr. Monson came to Illinois from Boston, where he was a research scientist in the Department of Pediatric Newborn Medicine at Brigham and Women's Hospital, a research associate in the Department of Radiology at Boston Children's Hospital, and an instructor in pediatrics at Harvard Medical School. His Ph.D. in speech, language, and hearing science is from the University of Arizona. Dr. Monson's research focuses on the auditory neurodevelopment of premature infants. Little research has been done in this area, although early deficits in neurodevelopment can affect premature infants adversely throughout childhood and into adulthood in the form of delayed language development, hearing and auditory processing deficits, and problems with semantics and grammar. His ultimate research goal is to optimize the auditory experience for infants born prematurely in order to facilitate healthy outcomes in speech and hearing.

ALESSANDRO RIGOLON

Assistant Professor
Department of Recreation, Sport and Tourism

Dr. Rigolon earned his PhD in Design and Planning at the University of Colorado in Denver. He joined AHS from the Department of Urban Studies and Planning at California State University, Northridge, where he taught courses on sustainable land use planning. His research addresses environmental justice, and he is particularly interested in disparities in recreational opportunities between low-income and wealthy neighborhoods. He uses geo-spatial tools and qualitative techniques to expose inequities in access to parks and is interested in furthering our understanding of why disparities exist and how they are tied to policies and funding. His most recent work has focused on policies that promote the development of new parks and green spaces in underserved communities without displacing their long-term residents, a process known as "green gentrification."

WENDY ROGERS

Shahid and Ann Carlson Khan Professor
Department of Kinesiology and Community Health

One of the foremost scholars in the field of healthy aging, Dr. Rogers joined AHS from Georgia Tech, where she was a full professor in the School of Psychology. Her research lies at the intersection of aging, health, and technology, with specific interests in technologies that enable aging at home, design for aging, technology acceptance, interactions of humans with automation and robots, aging with disabilities, and cognitive aging. She is the director of the Human Factors and Aging Lab at Illinois. Dr. Rogers completed her PhD in Experimental Psychology at Georgia Tech.

DR. KAREN KIRK, HEAD OF THE DEPARTMENT OF SPEECH AND HEARING SCIENCE

HONORS OF THE ASSOCIATION

Dr. Karen Kirk, head of the Department of Speech and Hearing Science, received Honors of the Association during the 2017 Convention of the American Speech-Language-Hearing Association in November. ASHA's most prestigious award recognizes lifetime achievement of individuals whose contributions have enhanced or altered the course of the speech and hearing science professions.

Dr. Kirk's research investigates factors that influence spoken word recognition and speech perception in adult and pediatric cochlear implant users. In her Speech Perception Lab, she and her team are developing speech perception assessments that accurately predict real-world speech recognition performance for cochlear implant users. They also are developing training strategies to improve cochlear implant performance outcomes.

CAMPUS AWARDS

EXCELLENCE IN UNDERGRADUATE ADVISING
Cassie Meinert
Kinesiology Advisor
Department of Kinesiology and Community Health

EXCELLENCE IN UNDERGRADUATE TEACHING
FACULTY
Laura DeThorne
Associate Professor
Department of Speech and Hearing Science

EXCELLENCE IN UNDERGRADUATE TEACHING
TEACHING ASSISTANT
Chad Killian
Ph.D. student
Department of Kinesiology and Community Health

COLLEGE AWARDS

STAFF
EXCELLENCE AWARD
Ryan Latvaitis
Former Office Support Specialist
Department of Recreation, Sport and Tourism

ACADEMIC PROFESSIONAL
EXCELLENCE AWARD
Susan Houseworth
Visiting Research Specialist
Department of Kinesiology and Community Health

PHYLLIS J. HILL
AWARD
Diana Grigsby-Toussaint
Associate Professor
Department of Kinesiology and Community Health

EXCELLENCE IN
UNDERGRADUATE ADVISING
Cassie Meinert
Kinesiology Advisor
Department of Kinesiology and Community Health

EXCELLENCE IN GRADUATE
STUDENT MENTORING
Fatima Husain
Associate Professor
Department of Speech and Hearing Science

EXCELLENCE IN GRADUATE AND
PROFESSIONAL TEACHING
Pamela Hadley
Associate Professor
Department of Speech and Hearing Science

EXCELLENCE IN UNDERGRADUATE TEACHING

TEACHING ASSISTANT
Chad Killian
Ph.D. student
Department of Kinesiology and Community Health

INSTRUCTOR
Don Hardin
Department of Recreation, Sport and Tourism

FACULTY
Laura DeThorne
Associate Professor
Department of Speech and Hearing Science

FACULTY
Monika Stodolska
Professor
Department of Recreation, Sport and Tourism

EXCELLENCE IN EXTRAMURAL TEACHING
Cynthia Wachter
Lecturer
Department of Recreation, Sport and Tourism

RESEARCH BRIEFS

Dr. Nicholas Burd

Department of Kinesiology and Community Health

"CONSUMPTION OF WHOLE EGGS PROMOTES GREATER STIMULATION OF POSTEXERCISE MUSCLE PROTEIN SYNTHESIS THAN CONSUMPTION OF ISONITROGENOUS AMOUNTS OF EGG WHITES IN YOUNG MEN"

THE AMERICAN JOURNAL OF CLINICAL NUTRITION, 2017, 106 (6), 1401-1412

Protein in the diet is commonly ingested from whole foods that contain various macro- and micronutrients. However, the effect of consuming protein within its natural whole-food matrix on post-consumption protein metabolism remains understudied in humans. Dr. Burd's team compared whole-body and muscle protein metabolic responses after the consumption of whole eggs (18 g protein, 17 g fat) versus egg whites (18 g protein, 0 g fat) during exercise recovery in young men. Researchers found that leucine, an amino acid that stimulates muscle protein synthesis, appeared in similar volume in the blood of both groups after ingestion. However, the ingestion of whole eggs immediately after resistance exercise resulted in a greater muscle-building response than did the ingestion of egg whites, despite being matched for protein content. Dr. Burd says the study suggests that the practice of avoiding egg yolks is counterproductive, and that consuming protein within its natural food matrix is more beneficial than consuming isolated protein sources.

Dr. Diana Grigsby-Toussaint

Department of Kinesiology and Community Health

"SLEEP APPS AND BEHAVIORAL CONSTRUCTS: A CONTENT ANALYSIS"

PREVENTIVE MEDICINE REPORTS, 2017, 6, 126-129

Although sleep apps are among the most popular commercially available health apps, little is known about how well they are grounded in behavioral theory. In this study, researchers analyzed 35 English language apps that had stand-alone functionality. Sleep tracker or monitor apps had to be ranked by 100 or more users, and sleep alarm apps ranked by 1000 or more users. Researchers found that constructs from social cognitive theory were the most aligned with the apps examined. App developers have incorporated tools for realistic goal setting, time management, and self-monitoring which could be beneficial to individuals with diagnosed sleep disorders. However, few of the apps included features to support behavioral change, including general information about sleep and its benefits and habits that promote or interfere with sleep. The scholars concluded that although the apps were generally designed well and easy to use, there is much room for improvement in developing apps that promote behavioral change.

Dr. Fatima Husain

Department of Speech and Hearing Science

"CONNECTIVITY OF PRECUNEUS TO THE DEFAULT MODE AND DORSAL ATTENTION NETWORKS: A POSSIBLE INVARIANT MARKER OF LONG-TERM TINNITUS"

NEUROIMAGE: CLINICAL, 2017, 16, 196-204

Resting state functional connectivity studies of tinnitus have provided inconsistent evidence concerning its neural bases. This may be due to differences in the methodology used, but it is also likely related to the heterogeneity of the tinnitus population. The goal of this study was to identify resting state functional connectivity alterations that consistently appear across tinnitus subgroups. Two sources of variability in the subgroups were examined: tinnitus severity and the length of time a person had had chronic tinnitus. Using functional MRI to look for patterns across brain function and structure, researchers found that in patients with chronic tinnitus, the area of the brain known as the precuneus is more connected to the dorsal attention network, which is active when something holds a person's attention, and less connected to the default mode network, which takes over when the person is at rest. Additionally, as severity of the tinnitus increased, so did the observed effects on the neural networks. The results may explain why people with tinnitus regularly report symptoms such as fatigue and inability to concentrate.

Dr. Toni Liechty

Department of Recreation, Sport and Tourism

"IT'S JUST NOT VERY REALISTIC: PERCEPTIONS OF MEDIA AMONG PREGNANT AND POSTPARTUM WOMEN"

HEALTH COMMUNICATION, 2017, 3, 1-9

Although research has documented a connection between media and body image for women, little research has explored this connection among pregnant or postpartum women. The purpose of this study was to explore women's perceptions of media and body image during the weeks immediately before and after birth. Fifty pregnant or postpartum women were asked to describe their perceptions of media depictions of pregnant or postpartum women and its impact on their body image. Most of the participants viewed media portrayals of pregnant and postpartum women as idealistic and far removed from most women's actual experiences. Nearly half reported that exposure to unrealistic images and messages fostered a host of negative emotions, such as self-consciousness about their bodies and feelings of depression, frustration, and hopelessness when they're unable to lose weight as rapidly after childbirth as celebrities allegedly do. Participants were nearly unanimous in the belief that media outlets focus too much on pregnant and postpartum women's bodies, and said they would like to see media explore other aspects of the perinatal experience, such as parenting or the miracle of birth.

CORPORATE SUPPORT MATTERS

ACCORDING TO SCIENCE MAGAZINE, THE FEDERAL GOVERNMENT NO LONGER FUNDS A MAJORITY OF THE BASIC RESEARCH CARRIED OUT IN THE US FOR THE FIRST TIME SINCE WORLD WAR II. SCHOLARS FACE STIFF COMPETITION FOR FEDERAL GRANTS. BUT THERE IS GOOD NEWS—WHILE FEDERAL RESEARCH DOLLARS ARE BEING REDUCED, THERE HAS BEEN A SIGNIFICANT RISE IN CORPORATE FUNDING OF RESEARCH SINCE 2012. CITING THE NATIONAL SCIENCE FOUNDATION'S ANNUAL BUSINESS RESEARCH AND DEVELOPMENT AND INNOVATION SURVEY, SCIENCE REPORTS THAT PRIVATE SECTOR EFFORTS ARE NOW THE DOMINANT FORM OF RESEARCH ACTIVITY IN THE UNITED STATES, WITH BUSINESS SPENDING $3 ON RESEARCH FOR EVERY $1 INVESTED BY THE U.S. GOVERNMENT.

Dr. Jeff Woods, associate dean for research in the College of Applied Health Sciences, says AHS scholars are making important discoveries with the help of corporate partners.

"More and more, corporations and corporate foundations are investing research and development dollars in public research universities for issues related to health, independence, and quality of life, especially assistive devices, communication, wearable, and digital technologies," he said.

FROM POWER CHAIRS ...

Dr. Laura Rice, assistant professor in the Department of Kinesiology and Community Health, focuses her research on health and disability. She is particularly interested in the prevention of secondary impairments associated with disability to enhance quality of life and increase community participation among wheelchair users. Her recent research on assessing fall characteristics among manual and power wheelchair users was supported by Permobil, considered to be a leader in the complex rehabilitation technology segment of the wheelchair industry. Results indicate that the factors influencing a fall are very complex and require input from multiple healthcare professionals.

"Permobil was a perfect fit for my research because they are committed to developing their products based on knowledge, whether it's from wheelchair users themselves, the therapists who work with people in wheelchairs, or scholars who are working to understand and improve the experience of wheelchair users," Dr. Rice said.

In her latest collaboration with Permobil, Dr. Rice is investigating the benefits of a feature known as active reach on a power wheelchair. Active reach is a tilt function that has the potential to improve a wheelchair user's ability to perform functional activities in their home. Because limited research has been done to assess the impact of active reach, many insurance companies are reluctant to support the use of chairs with this technology. Through her research, Dr. Rice hopes to provide evidence to support the use of active reach and make it available to more power wheelchair users.

Karin Leire, director of clinical research at Permobil, says that collaborating with scholars such as Dr. Rice teaches the company more about the secondary complications of prolonged seating. "We're concerned not only with physical outcomes, such as falls and pressure injuries, but also about functional and social outcomes," she said. "Permobil appreciates the resources the University of Illinois can bring to bear on issues related to assistive technology."

TO TECHNOLOGY FOR EARS

In his Binaural Hearing Lab, Dr. Justin Aronoff of the Department of Speech and Hearing Science investigates how the brain combines information from the left and right ears to optimize hearing within noisy environments. His mission in part is to improve the quality of hearing for people with hearing impairments who use listening devices such as cochlear implants. Toward that goal, he has studied the performance of bilateral cochlear implants and, with support from Advanced Bionics, is currently investigating the use of bimodal listening devices.

Patients with a cochlear implant in one ear and a hearing aid in the other often are not optimally programmed, with little or no coordination between the two devices. Advanced Bionics recently created a bimodal fitting system called Naida Link that aims to improve bimodal hearing performance, in part by aligning the parameters of the hearing aid to that of the cochlear implant processor.

The goal of Dr. Aronoff's study is to determine if bimodal fitting through the Naida Link yields better speech understanding when compared to standard clinical fitting of a cochlear implant and hearing aid. "This research has the potential to help clinicians determine if the bimodal fitting program will be beneficial for a given patient," Dr. Aronoff said.

GOAL: MAKING LIFE BETTER

Dr. Rice and Dr. Aronoff are just two of the AHS scholars who are making important contributions to their fields with the help of corporate research partners. As we pursue our goal of improving the lives of individuals, families, and communities, the College of Applied Health Sciences will continue to seek out partnerships that foster exciting advancements in knowledge, treatments, and technologies that enhance quality of life.

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