



AHS YEAR IN REVIEW 2019

MOVING FORWARD



I ILLINOIS
College of Applied Health Sciences



“ALONE WE CAN DO SO LITTLE,
TOGETHER WE CAN DO SO MUCH.

—HELEN KELLER



MESSAGE FROM THE DEAN



I love the quote with which this issue of *Moving Forward* begins. In 2019, the collaborations, partnerships, and team work in which AHS was involved resulted in incredible opportunities for our students and faculty, life-changing research, and community outreach programs that shed light on pressing health-related issues. Working with others, we did, indeed, do so much to make the world a better place.

We highlight some of those efforts within these pages, starting with our Health Technology Master's Program. The program, which resulted from a partnership with the Grainger College of Engineering, is dedicated to preparing professionals for the health technology industry who are skilled in both human factors and engineering. Our new master's degree in health technology is the first in the nation to have this dual emphasis. Health technology industry leaders are excited about the program and eagerly awaiting our first graduates.

Our scholars had an incredible year, publishing the results of collaborative studies that identified possible indicators of autism spectrum disorder in individuals with Down syndrome, the impact of water consumption on cognition, the importance of socializing to exercise program participants, and the role of work in health and well-being. AHS research continues to make significant contributions toward a comprehensive understanding of health across the lifespan and throughout a diverse society. That is something of which I am extremely proud. I also take pride in the many ways we share our work with the world at large. Among our outreach efforts in 2019 was "Making the Invisible Visible: A Dialogue on Veteran Traumatic Brain Injury." Sponsored by the Chez Veterans Center, Carle Foundation Hospital, the Beckman Institute for Advanced Science and Technology, and the Interdisciplinary Health Sciences Institute the event featured presentations by researchers, health care professionals, survivors, and caregivers. Among them was a report that focused on this last, often overlooked group, and the effectiveness of mindfulness training in reducing their stress and worry.

We also celebrated an important partnership that created an endowed professorship in the College of Applied Health Sciences. Dr. Jeff Woods of the Department of Kinesiology and Community Health became the first Mottier Family Professor, and Chip and Brad Mottier, who joined their mother Audrey Phyllis in creating the professorship, were able to be with us for the investiture. Endowed professorships are so important to the intellectual life and health of a college, and we are deeply grateful for their support.

In this issue, you will read about the second annual presentation in the AHS Distinguished Lecturer Series. Dr. Margaret Rogers of the American Speech-Language-Hearing Association shared her thoughts about links between disability and disparities in health and health care. You also will meet our new faculty and the outstanding recipients of our 2019 AHS Distinguished Alumni Award, Jon Consalvi, and 2019 DRES Scharper Award, Dr. Pat Malik.

As we embark upon what is sure to be a new year, a new decade, of continued growth, achievement, and excellence in the College of Applied Health Sciences, I hope you will enjoy taking a moment or two to look back with us on what was a very good year. We are proud of all that we accomplished and use it as motivation to reach for even more ambitious goals this year. If you are on campus in the coming months, please do stop by and say hello. We are never too busy to meet a friend.

Sincerely,

Cheryl Hanley-Maxwell

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



AHS LAUNCHES COMPREHENSIVE HEALTH TECH INITIATIVE

HEALTH TECHNOLOGY EDUCATION PROGRAM
INCLUDES FIRST-OF-ITS-KIND MASTER OF
SCIENCE IN HEALTH TECHNOLOGY DEGREE

WHEN DR. WENDY ROGERS JOINED THE COLLEGE OF APPLIED HEALTH SCIENCES IN 2017, SHE BROUGHT WITH HER A VISION OF A COMPREHENSIVE EDUCATION, RESEARCH, AND OUTREACH PROGRAM FOCUSED ON THE DEVELOPMENT AND ADVANCEMENT OF APPLIED HEALTH TECHNOLOGY, TECHNOLOGIES THAT CAN BE USED BY HEALTHCARE CONSUMERS TO MAINTAIN OR IMPROVE THEIR HEALTH AND INDEPENDENCE.

Her vision fit perfectly with one shared by AHS and the College of Engineering, which had successfully collaborated on a proposal through the campus Visioning Future Excellence initiative to hire a senior scholar whose research addressed the intersection of technology and health. At the time of her hiring, Dr. Rogers was already nationally and internationally renowned for her research on human factors and aging at the Georgia Institute of Technology, where she was a principal investigator in the NIH-funded Center for Research and Education on Aging and Technology Enhancement.

AHS and Engineering have since collaborated on another successful proposal, submitted to the Investment for Growth campus initiative, which established the Health Technology Education Program. Housed in the College of Applied Health Sciences and directed by Dr. Rogers, the program encompasses components for both undergraduate and graduate students, with future plans to offer continuing education to working professionals.

A DIRE NEED

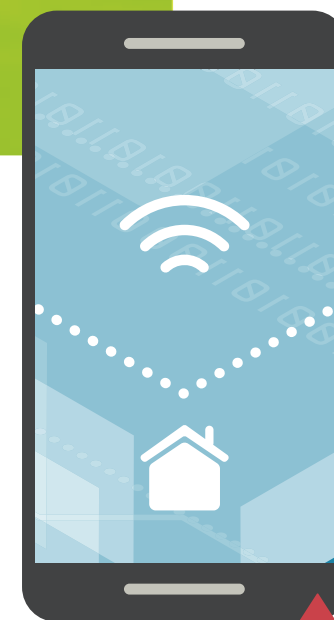
The crown jewel of the Health Technology Education Program is the Master of Science in Health Technology (MSHT) degree program, which will admit its first cohort of students in the fall of 2020. It is the first graduate degree to emphasize human factors and engineering in a collaborative program that is focused on health technology. Comprehensive research conducted by Illinois Business Consulting (IBC) as well as a survey conducted by Dr. Rogers and Dr. Nicole Holtzclaw-Stone, assistant director of the Health Technology Education Program, revealed the need for and keen interest in such a program.

“Through surveys, focus groups, and cold calls to industry, IBC found that there are no existing master’s programs that take this approach to health technology, either within the United States or internationally,” Dr. Rogers said. “Moreover, interest in this degree is high. In our survey of 65 industry experts in health technology, 92 percent said the degree would be valuable, and 65 percent thought it was likely that their organization would be interested in hiring the program’s graduates.” One survey respondent summed it up by saying, “There is a dire need for this unique program in the healthcare industry.”

“THERE IS A DIRE
NEED FOR THIS
UNIQUE PROGRAM
IN THE HEALTH
CARE INDUSTRY.”

While the degree will be housed in AHS, it is a collaborative effort with the Grainger College of Engineering, primarily the Department of Industrial and Enterprise Systems Engineering. Other collaborators include the departments of Mechanical Science and Engineering, Electrical and Computer Engineering, Bioengineering, and Computer Science, as well as the departments of Speech and Hearing Science and Recreation, Sport and Tourism in the College of Applied Health Sciences.

The degree program is intensive, with students completing their coursework in two semesters, followed by a capstone project experience during the summer. Dr. Tim Hale, teaching assistant professor in the Department of Kinesiology and Community Health, will teach classes offered by AHS, including an introductory course focused on the users of health technology and an overview of human factors methods for health. He will co-teach with his counterpart in the Grainger College of Engineering the development classes for a capstone project. Dr. Holtzclaw-Stone will teach the orientation class for the capstone project and oversee the project experiences in the summer. Engineering also will offer classes in hardware and software engineering for health technology.





Dr. Hale taught the introductory class last fall and is teaching the human factors methods course this semester. He believes the mix of students make the classes interesting. “Students with a background in engineering tend to come at the health technology design process from the perspective of, ‘I have a piece of technology; how do I find a user group that needs it,’” he said. “Students with health-related backgrounds tend to start from a public health problem and ask, ‘How can I find or build a piece of technology that will address the problem?’” He plans to keep the classes flexible to accommodate students who come into the degree program with a specific idea they want to pursue as well as those who enter with a general desire to improve health care.

Part of his responsibility is to help all MSHT students identify research questions and background resources related to capstone projects that require them to design solutions to real-world problems for clients in industry, government, community-based organizations, and academia. Examples include assessing virtual reality exercise games for older adults for a start-up company, or customizing and assessing assistive technologies in a rehabilitation clinic. During the summer after completing their coursework, they will implement their solutions on site.

Harshal Mahajan, assistant director of research for the McKechnie Family Living in Interactive Future Environments (LIFE) Home, also will play an important role in students’ capstone projects. In addition to simulating existing home dwellings for the purpose of testing existing health technologies, the LIFE Home provides space for the development of new technologies. He will oversee the Health Technology Innovation Lab, which will include rapid prototyping services.



DIGITAL BADGES ARE USED TO INDICATE PROFICIENCY IN HEALTH TECHNOLOGY.



“MSHT students will be able to test their ideas in the LIFE Home,” Dr. Mahajan said. “They can fabricate models of their design ideas during the first two semesters of their studies, and then implement them during the summer when they’re working with clients.” Students going through the process of developing their prototypes will benefit significantly from Dr. Mahajan’s background in biomedical and rehabilitation engineering as well as his keen interest in adapting commercially available smart technologies to enhance the health and safety of individuals in their homes.

NOT JUST FOR GRADUATE STUDENTS

Students graduating from the innovative Master of Science in Health Technology degree program will be interdisciplinary practitioners who have the knowledge, skills, and abilities to develop, test, and use technologies that promote health and rehabilitation, assist individuals with disabilities, and improve independence and quality of life. They will go on to professional positions with health technology manufacturers, regulating agencies, governmental bodies, community-based aging organizations, and health care institutions. They are not the only ones who will benefit from the Health Technology Education Program, however.

The program will offer undergraduate students the opportunity to complete certificates of specialization in such areas as health technology, health technology informatics, health technology research methods, health technology and aging, and health technology robotics. Program assistant director Dr. Holtzclaw-Stone also is developing digital badges that students can easily use to indicate their proficiency in health technology. Additionally, program leaders plan to develop continuing education courses to enable working professionals in fields such as physical and occupational therapy, nursing, and engineering to learn more about health technology topics that are relevant to their work.

With the increasing proliferation of smart technologies and their potential for a huge positive impact on health care and health maintenance, it is critical to increase the pool of professionals who have a deep understanding of user needs, human factors tools and techniques, and hardware and software components of health technologies, as well as regulatory and ethical issues related to technology design and implementation. The College of Applied Health Sciences and the Grainger College of Engineering are stepping up to the plate to make sure that the future of health technology, and, indeed, the future of society at large, is bright.

IDENTIFYING RED FLAGS TO IMPROVE LIVES

ONE OF DR. MARIE MOORE CHANNELL'S GOALS IS TO RAISE AWARENESS AND INCREASE UNDERSTANDING OF AUTISM SPECTRUM DISORDER IN INDIVIDUALS WITH DOWN SYNDROME

Dr. Marie Moore Channell, assistant professor in the Department of Speech and Hearing Science (SHS) and director of the Intellectual Disabilities Communication Lab, would like to clear up a misconception that exists within much of the medical community and the public at large: people with Down syndrome are not protected from having autism spectrum disorder (ASD) because they are social and friendly and appear to be doing fine.

Symptoms of ASD that can appear within this group may be dismissed as being part of Down syndrome, but doing so and failing to provide early intervention for ASD can have long-term consequences. While there are "massive" amounts of research being done on autism, Dr. Channell said, little of it addresses individuals with intellectual disabilities. In fact, individuals with Down syndrome often are used as the control group in studies of autism.

Dr. Channell was the lead author of a paper titled "Characteristics Associated with Autism Spectrum Disorder Risk in Individuals with Down Syndrome." Published in the *Journal of Autism and Developmental Disorders* in May 2019, the paper shed light on the specific behaviors that are associated with ASD in individuals with Down syndrome.

HOW INTEREST DEVELOPED

Dr. Channell's research program focuses on characterizing how language and communication skills develop in children with Down syndrome in order to develop more effective ways of supporting their development. She was conducting a study of their ability to use mental state language—language that references emotions, thoughts, and intentions—which is critical not only to expressing your own emotions in socially acceptable ways, but also to discerning others' emotions and having appropriate conversations with them.

In talking with the families of individuals with Down syndrome during this study, Dr. Channell noticed that some of them were describing behaviors more often found in autism. Unfortunately, screening tools for autism in the general population were not designed for individuals with intellectual disabilities. So how do you separate behaviors that are related to Down syndrome from those that are related to autism spectrum disorder? It's complicated, Dr. Channell said. "The more we can learn about Down syndrome itself, the more we can identify what is common to the syndrome and what is best explained by the syndrome, the better," she said. "We have to know what the typical patterns of social behavior and emotion understanding and language and communication are in Down syndrome and then say, ok, there are still these other repetitive behaviors and social problems that are above and beyond the Down syndrome."



Individuals with Down syndrome who are at risk for ASD may be identified through a comprehensive clinical evaluation that includes "gold standard" diagnostic tools coupled with the expertise and judgment of experienced clinicians, Dr. Channell said. However, not everyone with Down syndrome can get that kind of in-depth evaluation. So how do you know to whom to provide that level of assessment?

WHAT THE STUDY FOUND

The paper in the *Journal of Autism and Developmental Disorders* resulted from a multi-site collaboration called the Down Syndrome Cognition Project. Dr. Channell and SHS colleague Dr. Laura Hahn pooled resources with researchers from the Department of Human Genetics at Emory University and the Kennedy Krieger Institute and analyzed data from more than 200 individuals with Down syndrome, a number they never would have achieved by themselves. The data included the results of IQ and other cognitive tests as well as parent report questionnaires.

The researchers looked at typical symptoms of ASD across the sample of individuals with Down syndrome as well as separating the sample into high and low ASD risk groups and comparing them on ASD characteristics. They found that the group at higher risk for ASD had lower scores on IQ and cognitive tests and fewer of the self-care skills that enable individuals to live independently. The big finding, however, was that certain maladaptive behaviors, including inattention, social withdrawal, socially offensive behaviors, and self-injurious behaviors, were much more prevalent in the high risk group.

"This is a first step, pointing to really specific behaviors that may be red flags for autism and that can be used to modify existing screening tools for the population of individuals with Down syndrome," Dr. Channell said. "The next step is to look at this in more depth."

Toward that end, she and Dr. Hahn are collaborating with Dr. George Capone of the Kennedy Krieger Institute. The institute focuses on improving the lives of children and young adults with pediatric developmental disabilities. Over the course of his 30-year career, Dr. Capone has amassed a body of longitudinal data on patients with Down syndrome, including documenting autism-like symptoms. He hasn't been able to take time from his busy practice to examine the data in depth. That task will fall to Dr. Channell and Dr. Hahn, who are looking forward to adding to a greater understanding of what autism spectrum disorder looks like in individuals with Down syndrome, and, hopefully, to the development of more effective tools for diagnosis and treatment.

DR. MARIE MOORE CHANNELL

DISPARITY LINKED TO DISABILITY

DR. MARGARET ROGERS HIGHLIGHTS THE HURDLES
PEOPLE WITH APHASIA FACE IN GETTING HEALTH CARE

HEALTH DISPARITY
REFERS TO THE BURDEN OF
ILLNESS, INJURY, OR DISABILITY.

HEALTH CARE DISPARITY
REFERS TO DIFFERENCES IN
HEALTH INSURANCE COVERAGE,
ACCESS TO AND USE OF HEALTH
CARE, AND QUALITY OF CARE.



PEOPLE WITH DISABILITIES FACE BOTH HEALTH DISPARITIES AND HEALTH CARE DISPARITIES, ACCORDING TO DR. MARGARET ROGERS. DR. ROGERS, CHIEF STAFF OFFICER FOR SCIENCE AND RESEARCH AT THE AMERICAN SPEECH-LANGUAGE-HEARING ASSOCIATION, SHARED HER THOUGHTS AS THE 2019 APPLIED HEALTH SCIENCES DISTINGUISHED LECTURER.

She used research about people with aphasia to illustrate the challenges that people with communication disabilities may face in maintaining their health and receiving good care. Aphasia is a neurological disorder caused by damage to areas of the brain that are responsible for language production and comprehension. It is often a result of strokes but can be caused by any traumatic brain injury. Typically a chronic disability, aphasia has a critical impact on communication and social connections for the 2.5 million people in the United States who have it. According to Dr. Rogers, research has shown that people with aphasia are less likely to be discharged to home from an inpatient setting and less likely to return to their jobs than stroke survivors without aphasia. They also participate in fewer activities and have a high risk of depression. “There are a wide variety of international, governmental, and professional statements and guidelines which mandate that people with disabilities should have equal access to services,” she said. “However, communication access to health care has not been widely available to people with communication disabilities such as aphasia.”



DR. MARGARET ROGERS

Communication access means that people have the means and opportunities “to communicate effectively, meaningfully, accurately, and authentically in order to get equal, uncompromised access to goods and services.”

**A NUMBER OF FACTORS NEGATIVELY IMPACT COMMUNICATION
ACCESS FOR PEOPLE WITH APHASIA, INCLUDING:**

**LACK OF KNOWLEDGE ABOUT APHASIA AMONG THE GENERAL PUBLIC—
A RECENT SURVEY REVEALED THAT FEWER THAN 10 PERCENT OF
RESPONDENTS KNEW WHAT APHASIA WAS, AND MANY PEOPLE EQUATE
IT WITH DEMENTIA.**

**POOR UNDERSTANDING OF APHASIA AMONG HEALTH CARE PROFESSIONALS,
WHO OFTEN OVERESTIMATE THE LANGUAGE ABILITIES OF PEOPLE WITH
APHASIA OR FAIL TO DIAGNOSE THE CONDITION AND MAKE REFERRALS FOR
ONGOING CARE.**

**LACK OF REIMBURSEMENT FOR SERVICES, SUCH AS SPEECH-LANGUAGE
PATHOLOGY, AFTER THE ACUTE PHASE OF CARE.**

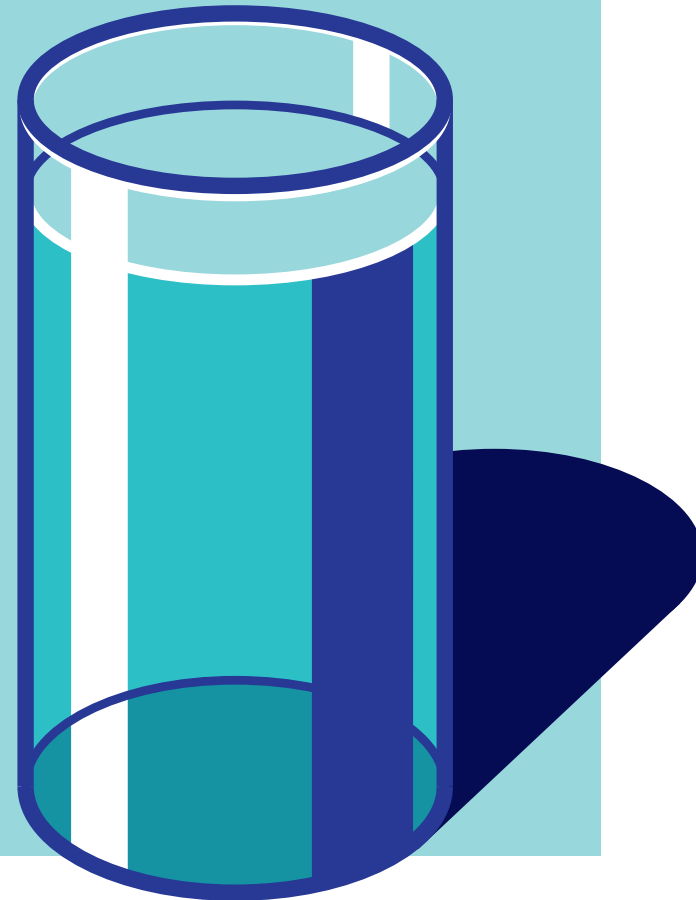
INSUFFICIENT TRAINING OF FAMILY AND OTHER CAREGIVERS.

In addition to loss of employment and increased social isolation and depression, the consequences of poor communication access can include an increase in safety risks, problems understanding medical advice, and a high vulnerability to further health problems such as additional strokes. It is critical, therefore, that communication access gains the kind of attention that physical access has in the past. Beyond educating the general public and healthcare providers, Dr. Rogers also recommends educating policy makers so that they are compelled to create and adequately fund services for people with communication disabilities.

DRINK MORE

DRINKING MORE WATER IMPROVES MULTITASKING ABILITY IN CHILDREN

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



DRINKING WATER NOT ONLY KEEPS CHILDREN HYDRATED, BUT ALSO INCREASES THEIR ABILITY TO MULTITASK, SUGGESTS A NEW STUDY BY RESEARCHERS AT THE UNIVERSITY OF ILLINOIS AND THEIR COLLABORATORS. AFTER DRINKING MORE WATER FOR FOUR DAYS, 9- TO 11-YEAR-OLD CHILDREN WERE MORE HYDRATED AND HAD FASTER REACTION TIMES ON A TASK-SWITCHING TEST, AS REPORTED IN **THE JOURNAL OF NUTRITION**.

“Recent urine biomarker data has indicated that over half of the children in the United States are probably inadequately hydrated,” said study leader Naiman Khan, a professor of kinesiology and community health at Illinois. “We’ve studied dietary effects on children’s cognition for a long time, but the opportunity to promote cognitive function in children with water intake is very important. Children are at a higher risk of involuntary dehydration. They depend on adults to recognize their needs and provide them with water.”

Dr. Khan’s group, in partnership with former KCH professor Dr. Charles Hillman—now with the Bouvé College of Health Sciences at Northeastern University—studied 75 children in central Illinois. They compared the children’s urinary hydration and cognitive performance at their normal baseline levels, after drinking only half a liter of water a day for four days, and after drinking 2.5 liters of water each day for four days.



DR. NAIMAN KHAN



“This is the first study to our knowledge that has manipulated water intake over several days and measured changes in cognitive performance among children,” Dr. Khan said. “It’s also one of the first studies to use all the measures of urine hydration that are available, including osmolality, specific gravity, and color.”

Children with higher baseline hydration performed better on a task-switching activity designed to measure cognitive flexibility. In addition, the children collectively performed better and had faster reactions on the task-switching test after drinking more water, although they showed no difference on tests designed to measure attention and inhibition. “Children who were better hydrated tended to have greater ability to multitask and faster reaction times, and children who increased their water intake also increased their ability to multitask,” Dr. Khan said. “That tells us that the benefits of water may be selective for cognitive processes associated with multitasking.”

After drinking more water for several days, the children’s hydration improved as expected. However, many of the children had the same or only slightly different values in urinary markers of hydration in the low-water condition as they did at their baseline. This indicates that they may be under hydrated in their everyday activities, which is concerning, Dr. Hillman said. “Such findings suggest that childhood health behaviors, such as being properly hydrated, may benefit complex cognitive operations including working memory and cognitive flexibility. Given that these aspects of cognition underlie academic achievement, it is interesting to think about low-cost lifestyle interventions, such as increasing water intake, to benefit cognitive and brain health as well as effective functioning throughout the school day,” Dr. Hillman said.

Dr. Khan said the researchers hope to further explore the relationship between hydration and cognitive performance in children by using brain imaging in future studies to see which neural networks benefit most from water consumption. They would also like to study hydration’s relationship to other mental tasks. “The three tasks we studied do not comprehensively tap into all the different cognitive domains,” he said. “There are others that may be of interest.”

Additional co-authors include collaborators at Danone Nutricia Research in Palaiseau, France, which also supported this work.

“INADEQUATE HYDRATION CAN IMPACT CHILDREN’S COGNITION.

DR. NAIMAN KHAN



WORK HEALTH

DR. DAVID STRAUER BELIEVES WORK IS CRITICAL TO EMPOWERMENT AND SOCIAL CONNECTION. HE HAS LONG BEEN INTERESTED IN RELATIONSHIPS AMONG WORK, HEALTH, AND WELL-BEING, ESPECIALLY AS THOSE RELATIONSHIPS PLAY OUT WITHIN MARGINALIZED GROUPS WHO OFTEN ARE EITHER UNEMPLOYED OR UNDEREMPLOYED.

He has been studying factors such as work personality and vocational behavior with a focus on people with chronic health conditions and disability, and he presented his research at the Fall College Meeting as the 2019 King McCristal Distinguished Scholar in the College of Applied Health Sciences.

Dr. Strauser, a professor in the Department of Kinesiology and Community Health, said it is important to study work because it is critical to a sense of empowerment, social connection, and well-being. Less than one-third of people with chronic health conditions or disability are employed, while nearly three-quarters of those without health challenges are. Those who do work are often in marginalized jobs with low status, low pay, and few if any benefits. The absence of satisfactory employment opportunities may cause people with chronic health issues or disability to disconnect from society. "People with marginal earnings are more likely to face issues with their mental health as well, such as depression and anxiety, and lower levels of physical health, with a greater incidence of conditions such as obesity and hypertension," he said.

His research seeks to answer the question, How do we get marginalized groups into the labor market and keep them there? His work has focused on work personality, which describes how people connect to work, and on cognitive processing, which can impact job satisfaction, performance, and mood. Using the Developmental Model of Work Personality, Dr. Strauser created a scale to measure how individuals perceive themselves as workers and how strongly they relate to work-related needs and values.



IF WE ACCEPT THAT THOSE WHO EARN MORE HAVE BETTER HEALTH, WE NEED TO MAKE THE CONCEPT OF A LIVING WAGE A RESEARCH PRIORITY.

DR. DAVID STRAUER

UNDERSTANDING THE COMPLEXITY OF THE WORK + HEALTH RELATIONSHIP

His Developmental Work Personality Scale has been a useful tool for rehabilitation counselors seeking to help people with chronic health problems and disabilities prepare for successful entry or re-entry into the labor market. He also developed the Illinois Work and Well Being Model, which emphasizes the interaction of contextual and career development domains as integral to improving participation in areas of work, society, community, and home. Among his many results, he has found that young adult cancer survivors and people with disabilities have problems with engaging in effective work-related problem solving and decision making and with managing all the relationships (family, employer, society) necessary to solving employment problems.

Dr. Strauser said the relationship between work and well-being presents a plethora of public health issues on which researchers should focus, including the issue of a living wage, which he distinguished from a mandatory minimum wage. "A living wage is adjusted to the environment in which the employee lives and takes into account how much is needed to have an acceptable quality of life," he said. "If we accept that those who earn more have better health, we need to make the concept of a living wage a research priority."

Another issue is workers compensation. Nearly 3 million people a year suffer non-fatal work injuries. Once they disengage from their jobs and go out on disability, many either do not re-engage or do so at a much lesser level. Rural and urban poverty also can prevent people from connecting to the labor market. Vocational programs can make a difference, but Dr. Strauser pointed out that vocational programs and other employment counseling programs often are located in non-accessible or undesirable areas that are not served by public transportation. Employee assistance programs offered through the workplace may be effective in dissuading individuals from disconnecting from employment, but these programs often are highly stigmatized and sometimes are used by employers to identify "problem" employees.

Addressing the complexity of the work and health relationship, then, requires a deep understanding of all of these issues and more, as well as targeted efforts to educate not only potential employees but also employers. As was apparent from the McCristal Lecture, Dr. Strauser is adding significantly to that understanding and education.



CARING FOR CAREGIVERS



DR. SANDRALUZ LARA-CINISOMO HAS FOUND THAT MINDFULNESS TRAINING REDUCES STRESS, ANXIETY, AND WORRY AMONG CAREGIVERS OF VETERANS

IN 2015, THE NATIONAL ALLIANCE FOR CAREGIVING ESTIMATED THAT 43.5 MILLION ADULTS IN THE UNITED STATES PROVIDED UNPAID CARE TO SOMEONE, TYPICALLY A FAMILY MEMBER, WITH A LONG-TERM ILLNESS OR DISABILITY. MANY OF THESE “INFORMAL CAREGIVERS,” AS THEY ARE KNOWN, ARE CARING FOR VETERANS OF MILITARY CONFLICTS WHOSE LONG-TERM CONDITIONS MAY REQUIRE DECADES OF CARE.



BEING MORE GENTLE AND COMPASSIONATE TOWARD ONE’S SELF HAS BENEFITS FOR THE CAREGIVER AND THE PERSON FOR WHOM THEY ARE CARING.

DR. SANDRALUZ LARA-CINISOMO

Much of the focus of research and intervention has been on helping the veterans cope with these conditions, but the caregivers of these veterans might face challenges to their health in the form of stress, anxiety, worry, and depression. These informal caregivers fill a critical role in the health care system. How do we take care of them?

LESS JUDGMENT, MORE ACCEPTANCE

That is the question Dr. Sandraluz Lara-Cinisomo addressed in a recent pilot study of caregivers of veterans. An assistant professor in the Department of Kinesiology and Community Health who completed a PhD in Psychology at Columbia University, Dr. Lara-Cinisomo has long been interested in mental health issues such as depression, anxiety, and other mood disorders, and their role in maternal and child health. As a behavioral scientist at the RAND Corporation and as an assistant professor in the Department of Special Education and Child Development at the University of North Carolina at Charlotte, she had studied the impact of military deployment on children of the deployed service member and their caregivers, typically the other parent. As the conflicts in the Middle East have drawn down and the active duty personnel have returned as veterans, often with injuries that require long-term care, she felt it was important to look for interventions that would help spouses and other family members maintain their own health as they took on caregiving responsibilities.

“I was interested in interventions that have been shown to be effective at reducing stress, depression, anxiety, and worry,” she said. “I also considered affordability and accessibility, and I wanted something that didn’t require one-on-one intervention but could be used with a group.” From her review of the literature, Dr. Lara-Cinisomo identified mindfulness training as having the potential to meet all of her criteria. The goal of mindfulness is to increase one’s self-awareness, to be more observant and less reactive, and to decrease judgmental feelings and increase feelings of acceptance. Mindfulness training may include meditation and conducting what are known as body scans, which involve reviewing every part of the body to determine whether they are tensed or relaxed. Participants may be asked to focus on their breathing or pay attention to the sensations that accompany routine daily activities such as washing the dishes or eating a meal. This helps increase awareness of other stimuli.

In her study, Dr. Lara-Cinisomo recruited caregivers of veterans who were assigned either to a treatment group or a wait list control group (wait listed caregivers were offered the training at the completion of the study). Their levels of depression, worry, anxiety, and stress were measured before and after the training. For this population, stress, anxiety, and worry were bigger issues than depression. The treatment group met once a week for eight weeks and were asked to practice at home. At the conclusion of the training, Dr. Lara-Cinisomo found not only that mindfulness training reduced levels of stress, anxiety, and worry, but also that the differences between the treatment and control groups were statistically significant.



CARING FOR CAREGIVERS

THE IMPORTANCE OF SELF-CARE

Dr. Lara-Cinisomo’s pilot study was the first to examine mindfulness training as an intervention for caregivers of veterans, a population that has been understudied to date. “It’s important to remember that many of these caregivers have already encountered years of stress associated with having a family member who has likely experienced multiple deployments,” she said. “We still don’t know a lot about what this kind of stress means for their long-term well-being.”

What we do know is that those who continuously give without “refilling their own buckets,” as she put it, cannot run on empty for very long. While pre-9/11 veterans must grapple with the compounding effects of aging and war-related injuries, post-9/11 veterans must cope with injuries that pre-9/11 veterans were not able to survive, notably traumatic brain injuries. These differences highlight the complex needs of caregivers, especially when they are also caring for children or aging parents.

“It’s important that they understand that it’s okay to take time for themselves, and that it can actually help them to do all of the things they need to do,” she said. “Being more gentle and compassionate toward one’s self has benefits for the caregiver and the person for whom they are caring, and those benefits may even extend to other family members.”

That ripple effect is something Dr. Lara-Cinisomo hopes to study in the future. The results of the pilot study have encouraged her to study the benefits of mindfulness training with a larger group of caregivers, as well as with children of post-9/11 veterans who may themselves be involved in caregiving and therefore experiencing similar stress and anxiety.

MAKING THE INVISIBLE VISIBLE



DR. SANDRALUZ LARA-CINISOMO

Dr. Sandraluz Lara-Cinisomo shared her research on mindfulness training for caregivers of veterans at the symposium “Making the Invisible Visible: A Dialogue on Veteran Traumatic Brain Injury.” Held on November 1, 2019, the event was co-sponsored by the Chez Veterans Center, Carle Foundation Hospital, the Interdisciplinary Health Sciences Institute, and the Beckman Institute for Advanced Science and Technology.

Traumatic brain injury, or TBI, is the signature wound of post-9/11 veterans. According to the Department of Defense, nearly 400,000 members of the military suffered TBIs between 2000 and 2018. Because it is an invisible injury, it may go undiagnosed for years. Because it has physical, cognitive, and emotional symptoms that also can be found in post-traumatic stress disorder, it may be misdiagnosed.

Presentations by veterans with TBI, caregivers, researchers, and health care providers shed light on the current state of knowledge about TBI, challenges to diagnosing and treating it, and research that seeks to improve diagnosis and treatment. Presenters included: Dr. James Kelly, executive director of the Marcus Institute for Brain Health at the University of Colorado School of Medicine and a leading expert on treating TBIs; U.S. Marine Corps veteran and motivational speaker Justin Constantine, who suffered a TBI during combat in Iraq; and Carle Foundation physicians Dr. Paul Arnold, director of research at the Carle Neuroscience Institute, and epileptologist Dr. Graham Huesmann, who along with post-doctoral research assistant Aaron Anderson is investigating post-traumatic epilepsy, specifically whether magnetic resonance elastography can be used to determine the risk of developing epilepsy after a TBI.



SAPORA DRAWS BIG CROWD



More than 300 students attended the 2019 Allen V. Sapora Symposium in November. The Department of Recreation, Sport and Tourism partnered with the Division of Intercollegiate Athletics as hosts of the event, which took place in the Colonnades Club of Memorial Stadium. Event sponsors included the Center for East Asian and Pacific Studies, the European Union Center, the Center for Global Studies, the Center of Latin American and Caribbean Studies, and the Russian, East European, and Eurasian Center.

In celebration of the 150th anniversary of college football and the 100th season of the NFL, day one of the event focused on Red Grange, one of the greatest players in the history of the game. Throughout the two-day event, students heard career-building advice from presenters in a variety of sports, recreation, and tourism industries. Here, students gather round the Red Grange statue outside Memorial Stadium at the start of the symposium.



Dr. Wendy Rogers of the Department of Kinesiology and Community Health and Dr. Raksha Mudar of the Department of Speech and Hearing Science will lead the campus team on a National Institute on Disability, Independent Living, and Rehabilitation Research-sponsored project to establish a Rehabilitation Engineering Research Center entitled ENHANCE, or Enhancing Neurocognitive Health, Abilities, Networks, and Community Engagement. The \$4.6 million, five-year grant was awarded to Illinois, Weill Cornell Medicine, and Florida State University in September 2019.

Dr. Harshal Mahajan, assistant research professor in the Department of Kinesiology and Community Health, will join Dr. Rogers and Dr. Mudar in a study of adults aged 60 and older who have mild cognitive impairment, cognitive impairment due to stroke, and cognitive impairment due to traumatic brain injury to understand challenges that adults with cognitive disability encounter in the performance of daily activities. They hope to apply the findings to the design of technology that will assist them in meeting these challenges.

OUT THE DOOR AND DOING SOMETHING

PROFESSOR TONI LIECHTY WANTS TO HELP DESIGN ENGAGING AND LIFE-STAGE-APPROPRIATE PROGRAMS THAT KEEP PEOPLE ACTIVE



HOW MANY OF US HAVE STARTED AN EXERCISE REGIMEN WITH ENTHUSIASM AND GOOD INTENT, ONLY TO ABANDON IT SIX MONTHS LATER? UNLESS YOU'RE A MEMBER OF THAT LUCKY MINORITY OF PEOPLE WHO ABSOLUTELY LOVE PHYSICAL ACTIVITY AND CAN'T IMAGINE NOT ENGAGING IN IT THROUGHOUT THE LIFESPAN, THE ANSWER IS ABOUT 75 PERCENT OF US.

Dr. Toni Liechty, associate professor in the Department of Recreation, Sport and Tourism, has long been focused on engaging that majority in physical activity from which they can derive health benefits. A self-described “non-fitness person,” Dr. Liechty’s research examines issues such as why people get involved in fitness programs, what keeps them involved, and how life stage and body image impact their involvement. “I look at this from a very practical perspective,” she said. “It would be great if we could get everyone doing the ideal physical activity to achieve the optimal level of physical activity benefits, but it’s not going to work to keep tweaking an already really good program if we can’t get them in the door.”

NOT MEETING MINIMUM GUIDELINES

In 2019, Dr. Liechty published a qualitative study in the journal *Recreation, Parks, and Tourism in Public Health* based on an opportunity she was given to study a fitness program that not only succeeded in getting participants in the door but also in retaining their participation, in some cases for decades. The setting was a low-impact aerobics class offered by a municipal park district in East Central Illinois, and the mean age of the participants was 70.



Older adults are of particular concern to health advocates because research has shown that the majority of older adults do not meet the minimum guidelines for physical activity that provides health benefits. Research also has shown that such benefits encompass enhanced physical, social, and emotional functioning as well as overall quality of life.

The park district wanted to know why this particular class was so successful, a question in which Dr. Liechty also was keenly interested. She conducted in-depth interviews with more than half of the regular participants in the class to find out why they had gotten involved in the class and what kept them coming back. What she discovered was that for this group of older adults, the social aspects of class participation were as important as the health aspects.

FRIENDS AND FUN

Two of the key factors in getting them in the door, Dr. Liechty found, were the time of the class and the instructor. Most of the participants were retired, so the 8:00 a.m. class time fit their schedules well. The instructor, at the time of the study, was 73 years old. “This was important because they felt that the instructor understood their needs and wants,” Dr. Liechty said. “She got that they wanted to be challenged, and appreciated an instructor who didn’t assume they couldn’t do things because of their age.” Participants also reported feeling welcome at their initial class, and enjoyed seeing that most of the other participants were of a similar age.

The social atmosphere of the class kept them engaged. Three themes emerged in Dr. Liechty’s findings: participants felt both physically and emotionally safe in the class—no one was made to feel inadequate based on their physical ability to perform the various aerobic routines. They valued the role it played in making and maintaining friendships—many of them pursued social activities outside of class, meeting at local cafes for coffee, for example. They benefited from the community that developed as they continued to attend class, receiving support from others as they faced stressful life events.

Dr. Liechty, who also has investigated the physical activity needs of women who are pregnant and women who play tackle football, as well as the role that retirement plays in leisure activity, says the social construction of aging is impacted by changing priorities, life circumstances, and physical abilities. “Older adults seem to care more about social interactions,” she said. “They also prioritize functional ability, things such as balance and flexibility, over beauty, and how they define beauty changes.” These factors have a significant impact on their approach to physical activity and the actual physical activity choices they make.

She is currently analyzing data from more than 1,000 responses to a nationwide survey focused on physical activity in adults aged 50 and above. She hopes to identify motivators for and barriers to fitness behaviors while teasing out differences related to age, gender, race, socioeconomic status, education, and other demographic factors. For Dr. Liechty, it is all about developing a body of knowledge that can be used by purveyors of physical activity programs to make their offerings more effective and more attractive. “To me, it’s just about getting people out the door, and getting them doing something,” she said.



OLDER ADULTS SEEM TO CARE MORE ABOUT SOCIAL INTERACTIONS. THEY ALSO PRIORITIZE THINGS SUCH AS BALANCE AND FLEXIBILITY OVER BEAUTY. DR. TONI LIECHTY

A CELEBRATION OF EXCELLENCE



LEADING EXPERT ON EXERCISE AND THE IMMUNE SYSTEM NAMED FIRST MOTTIER FAMILY PROFESSOR

As an undergraduate student at the University of Massachusetts, Jeff Woods was a member of the track and field team. His involvement in athletics coupled with an interest in how the body works led him to major in exercise science. He continued on to Springfield College, where he completed a master's degree in exercise physiology, and the University of South Carolina, where he completed his Ph.D. in exercise science and began his groundbreaking research on the relationship between exercise and the immune system. Over his 25-year career, Dr. Woods has emerged as a leader in his field, earning national and international renown not only for his own work but also for mentoring young scholars who go on to make significant contributions in their own right.

Last October, the College of Applied Health Sciences recognized Dr. Woods' many achievements by naming him the first Mottier Family Professor of Applied Health Sciences. "This is a day to celebrate," AHS Dean Dr. Cheryl Hanley-Maxwell said. "We celebrate the excellence of our faculty, the traditions of leadership and innovation that have defined the college since the beginning, and the generosity of our friends."

Excellence, leadership, and innovation clearly apply to Dr. Jeff Woods. He was among the first scholars to demonstrate that regular exercise can have an anti-inflammatory effect on the body. He showed that exercise can improve adults' response to the flu vaccine, and he was the first to show

JEFF WOODS, DISTINGUISHED SCHOLAR IN FIELD OF KINESIOLOGY, DOES PIONEERING RESEARCH IN EXERCISE PHYSIOLOGY

(L-R) Dr. Cheryl Hanley-Maxwell, Dean of the College of Applied Health Sciences; Brad Mottier, vice president and general manager of the General Electric Company; Dr. Jeff Woods, first Mottier Family Professor; Charles Mottier, intellectual property attorney at Leydig, Voit and Mayer



that exercise, independent of diet, can affect the gut microbiome, the collection of microorganisms, bacteria, viruses, protozoa, and fungi that exist in the gastrointestinal tract. His research showed that exercise increases the bacteria that produce beneficial molecules, called short chain fatty acids, which can be used for energy, strengthen the immune system, and are anti-inflammatory and anti-carcinogenic.

In his remarks, Dr. Woods noted that the Mottier Family Professorship would support the next phase in his research on the gut microbiome, to determine whether exercise-induced changes in the microbiome are responsible for the health benefits of exercise. "Your gift has been motivating and inspiring," he said to Chip and Brad Mottier, who helped to establish the professorship along with their mother Audrey Phyllis Mottier. "My students and I will put it to good use for research in the field of physical activity and health."

In addition to mentoring students and conducting a rigorous and productive program of research, which has resulted in more than 130 peer-reviewed scientific journal articles, Dr. Woods has served on many review groups for the National Institutes of Health and chaired the American College of Sports Medicine's Research Review Committee. He is a Fellow of the National Academy of Kinesiology and the American College of Sports Medicine and past president of the International Society for Exercise and Immunology.

WE CELEBRATE THE EXCELLENCE OF OUR FACULTY, THE TRADITIONS OF LEADERSHIP AND INNOVATION THAT HAVE DEFINED THE COLLEGE SINCE THE BEGINNING, AND THE GENEROSITY OF OUR FRIENDS.

AHS DEAN CHERYL HANLEY-MAXWELL

LEAVING SOMETHING BEHIND FOR FUTURE GENERATIONS

The Mottier Family Professorship in Applied Health Sciences was made possible through an estate gift of Audrey Phyllis Mottier. She and her husband Charles graduated from the University of Illinois in 1948, she with a degree in Physical Education for Women and he with a degree in Engineering. Son Brad, who along with his brother Chip completed the endowment, said his parents lived their lives on a larger scale. "They believed that if you made each day just a little above an average day, like compound interest over time, your life's experiences would set you apart" he said. "This philosophy applied to work, physical well-being, schooling, traveling, helping others, and on and on."

The seeds of the professorship were planted in the late 1980s, Chip Mottier explained, as part of a reorganization of his parents' finances. His father died unexpectedly in a plane crash in 2001. In the last years of her life, Audrey Phyllis completed the paperwork to make the professorship a reality. She passed away on December 25, 2013. "When the time came to define the goals of the family professorship, it was clear that the link between movement, exercise, and health would be a central focus," Chip said.

Both Brad and Chip Mottier graduated from the University of Illinois and are members of the President's Council. Chip completed his bachelor's degree in general engineering in 1978 and his law degree in 1981. He is an intellectual property attorney at Leydig, Voit and Mayer in Chicago, with technical expertise in mechanical engineering and fluid dynamics. Brad earned bachelor's and master's degrees in general engineering at Illinois, in 1979 and 1981, and completed an MBA at the University of Chicago in 1989. He is a vice president and general manager of the General Electric Company and leads the Business and General Aviation and Integrated Systems businesses for GE Aviation.



NICHOLAS BURD		
Associate Professor	DEPT Kinesiology and Community Health	
RESEARCH BRIEF	Journal of Applied Physiology	DEC 2019
Potato ingestion is as effective as carbohydrate gels to support prolonged cycling performance.		

WHAT WAS THE PURPOSE OF YOUR STUDY?
Endurance athletes (e.g., runners or cyclists) need to ingest carbohydrates as they train or compete to allow them to perform at their best. One of most common methods to ingest carbohydrates during exercise is to ingest energy (carbohydrate) gels. Our goal with this study was to expand and diversify race-fueling menus and offset flavor fatigue. Potatoes are a promising alternative for athletes because they are a cost-effective, nutrient-dense, and whole-food source of carbohydrates. They also are a savory fuel option in comparison with the high sweetness of carbohydrate gels.

WHAT DID YOU FIND?
We studied cyclists who had been training for years and who averaged 165 miles, or 267 kilometers, per week on their bicycles. Our research design mirrored typical race conditions. Throughout the exercise, we measured participants’ blood glucose, core body temperature, exercise intensity, gastric emptying, gastrointestinal symptoms, and lactate, a metabolic marker of intense exercise. We found no differences between the performance of cyclists who got their carbohydrates by ingesting potatoes or gels at recommended amounts of about 60 grams of carbohydrates per hour. Both groups had a significant boost in their performance that was not seen in a group consuming only water. Cyclists consuming potatoes did experience significantly more gastrointestinal symptoms, such as bloating, pain, and flatulence, which may be due to the larger volume of potatoes needed to match the carbohydrate level provided by gels. However, the average gastrointestinal symptoms were lower than in previous studies, indicating that both gels and potatoes were well-tolerated by the majority of the participants.

WHAT ARE THE IMPLICATIONS OF YOUR RESULTS?
Our study demonstrated that an approach does not have to be too fancy to elevate carbohydrate availability during endurance exercise to support performance. An individual can use energy gels, potatoes, or whatever they prefer to support race performance, provided the fuel source is readily digested and absorbed into circulation during the race.



NICHOLAS BURD



CHUNG-YI CHIU		
Associate Professor	DEPT Kinesiology and Community Health	
RESEARCH BRIEF	Multiple Sclerosis and Related Disorders	SEPT 2019
Descriptive analysis of free-text comments on healthcare priorities and experiences in a national sample of people with multiple sclerosis.		

WHAT WAS THE PURPOSE OF YOUR STUDY?
Our aim was to determine how to improve person-centered healthcare for people who have multiple needs in living well with chronic conditions such as multiple sclerosis (MS). We also wanted to identify gaps in healthcare services between the current healthcare system and users, which included both patients and family caregivers.

WHAT DID YOU FIND?
In addition to the long-lasting barriers to accessing healthcare such as the high cost of healthcare services, insufficient health insurance coverage, limited mobility, and transportation, people with chronic conditions like MS expressed a preference for receiving care from a comprehensive MS center, an MS research center, or an MS specialist as their main healthcare provider. This means that patients would like to have interdisciplinary, integrative, and up-to-date healthcare. Moreover, about 10 percent of participants stated that healthcare professionals should focus more time and attention on communicating and consulting with patients and their caregivers, and on understanding patients’ needs and questions. This means that patients could have different needs at different stages, such as seeking other ways to manage their health in addition to medications.

WHAT ARE THE IMPLICATIONS OF YOUR RESULTS?
Patients looked not only for reductions in their symptoms but also for overall promotion of physical, mental, and social health and well-being. The participants recommended that healthcare providers should have better knowledge of and continued education about disability and the impact of disability on individuals and their families. Also, general practice physicians or nurses may conduct a comprehensive intake with patients to learn about patients’ overall needs in promoting their health and well-being. We also suggest that a healthcare or wellness coordinator help integrate all needed healthcare services and resources for patients and family caregivers. For patients with transportation barriers, telemedicine can be useful.



CHUNG-YI CHIU



KEIKO ISHIKAWA		
Assistant Professor	DEPT Speech and Hearing Science	
RESEARCH BRIEF	Journal of Voice	JAN 2019
Application of a Landmark-Based Method for Acoustic Analysis of Dysphonic Speech.		

WHAT WAS THE PURPOSE OF YOUR STUDY?

About 30 percent of the general population experiences voice disorders, which can reduce intelligibility, particularly in noisy environments. Although the intelligibility problem is well-recognized by clinicians, they have no way to document the effectiveness of treatment because there is no standard tool for measuring the degree of this problem. The purpose of the study was to examine the feasibility of applying Landmark-based analysis to the evaluation of the intelligibility problem associated with voice disorders. We propose to develop a consistent computer-based tool that describes abnormality in speech related to intelligibility. To the best of our knowledge, our study is the first one to apply Landmark-based analysis for describing acoustic abnormality in a speech signal due to voice disorders.

WHAT DID YOU FIND?

Landmark theory assumes that speech articulation creates abrupt acoustic changes in a speech signal, and those moments, or “landmarks,” contain information important for listeners to understand speech. Our results showed that the expression of landmarks was significantly different between healthy speech and disordered speech. The disordered speech contained more landmarks associated with noise-like consonants, such as “s” in the word “sit” and “p” in the word “pit.” It also contained more landmarks that are associated with voicing onset and offset in the disordered speech. The extraneous noise and random voicing onset and offset would reduce acoustic robustness of speech sounds, which in turn reduces a listener’s ability to understand speech.

WHAT ARE THE IMPLICATIONS OF YOUR RESULTS?

The lack of intelligibility due to voice disorders has been estimated to cost \$11 billion annually in work-related disability, lost productivity, and direct health care costs. Recent advancements in computer technology, including “smart” voice assistants such as Siri and Alexa, have increased the importance of one’s ability to produce intelligible speech. Therefore, research efforts to evaluate and improve intelligibility have significant societal and economic implications. Our findings support the potential of the Landmark-based approach for realizing a fully-automated, clinical speech evaluation tool. We are currently conducting studies to make some adjustments to improve the performance of our algorithm, and to examine how it predicts the intelligibility problem.



KEIKO ISHIKAWA



JON WELTY PEACHEY		
Associate Professor	DEPT Recreation, Sport and Tourism	
RESEARCH BRIEF	Nonprofit and Voluntary Sector Quarterly	SEPT 2019
Constraints and strategies to scaling up in sport for development and peace organizations: Evidence from the Field.		

WHAT WAS THE PURPOSE OF YOUR STUDY?

The purpose of this study was to examine the constraints that managers of sport for development and peace (SDP) organizations face as they attempt to scale up their organizations, and to identify strategies they are employing to mitigate these constraints. More than 1,000 organizations around the world attempt to use sport to ameliorate societal issues such as social exclusion, health disparities, or conflict between individuals, cultures, and nations. From my practical experience working in the field, I noticed that many of these organizations had difficulties sustaining their programming and operations over the long term. I was curious as to why this is and wanted to help these organizations succeed, expand, and grow.

WHAT DID YOU FIND?

We found that there were three critical challenges SDP managers face in trying to scale up their organizations and programming: 1) mainstream development and funding organizations are skeptical about sport as a development tool. Many SDP leaders have been zealous about the greater power of sport to mitigate societal problems over other well-established initiatives without evidence to back up these claims, leaving many mainstream development agencies and funding organizations to regard SDP as lacking legitimacy; 2) SDP managers face intense competition for limited resources in development circles, and have therefore developed an entrepreneurial mindset to consider alternative funding mechanisms and revenue generation strategies to sustain and grow their organizations; 3) many SDP were well-steeped in the lore of sport and passionate about sport and development, but often lacked the critical business and nonprofit management skillsets to guide and grow an organization over the long term.

To mitigate these constraints, SDP managers employed a variety of tactics, such as building relationships with key partners and policy makers, engaging in creative programmatic and funding partnerships, exploring social enterprise activities to identify and launch alternative revenue generation initiatives, and engaging in organizational development initiatives to better train their employees and volunteers.

WHAT ARE THE IMPLICATIONS OF YOUR RESULTS?

Theoretically, this article maps constraints and strategies onto the four dimensions of scaling up—quantitative, functional, political, and organizational—which has not been done in previous research. Practically, the results demonstrate that SDP organizations need to manage human resources strategically and to recruit, train, and retain talented staff who have both passion about sport and development and the requisite business acumen to guide, nurture, and develop their organizations towards sustainability.



JON WELTY PEACHEY



PART OF SOMETHING SPECIAL

OVER THE COURSE OF HIS CAREER, JOHN CONSALVI HAS COMBINED HIS EDUCATION AND EXPERIENCE IN SPEECH-LANGUAGE PATHOLOGY WITH AN ENTREPRENEURIAL SPIRIT TO IMPACT THE LIVES OF COUNTLESS CLINICIANS, CLIENTS, SCHOOL DISTRICTS, AND FAMILIES ACROSS THE COUNTRY. THE FOUNDER OF TWO ENTERPRISES THAT TRAINED AND PLACED BILINGUAL SPEECH-LANGUAGE PATHOLOGISTS IN SCHOOLS, AND THE CURRENT FOUNDER AND CEO OF AN ONLINE COMMUNITY FOR SPECIAL EDUCATION PROFESSIONALS, JOHN WAS HONORED FOR HIS CONTRIBUTIONS WITH THE 2019 AHS DISTINGUISHED ALUMNI AWARD.

FILLING AN URGENT NEED

As a graduate student in the Department of Speech and Hearing Science, John was mentored by Dr. Joan Good Erickson, who encouraged him to pursue a career as a bilingual speech-language pathologist. Although he had been studying Spanish for several years and was able to apply his knowledge on occasion in the University of Illinois Speech-Language Pathology Clinic, John knew he would need near-native proficiency to be an effective bilingual clinician. After completing his master's degree in 1991, he spent a year in a Guatemalan orphanage as a first-grade teacher.

He joined the Chicago Public Schools system upon his return as a Spanish-English speech-language pathologist. There were no clinical or educational materials available in Spanish, so he created and published his own.

In her introduction of John, Suzanne Rinehart, associate dean for administration in AHS, explained how John's first entrepreneurial venture came about. "As you can imagine, the Chicago Public Schools system is enormous, having nearly 400,000 students," she said. "Tens of thousands are English learners, and the vast majority of those students are native Spanish speakers. Within this huge system, there were six bilingual speech-language pathologists—six people trying to serve thousands of students in hundreds of schools across the district."

John responded to this pressing need by founding Bilingual Therapies, a company that trained and provided bilingual clinicians to schools needing Spanish-language services. Over the next 11 years, he grew the business into a nationwide staffing company before selling it to a Fortune 1000 company. A few years later, he founded Lingua Health and developed a bilingual immersion training program for speech-language pathologists. That company was acquired by HealthPro Heritage in 2016.

AHS DISTINGUISHED ALUMNI AWARD RECIPIENT JOHN CONSALVI BLAZED TRAILS IN BILINGUAL SLP



John's latest venture, SPEDXchange, grew naturally from his experience as a speech-language pathologist who was an important member of the special education team, as most SLPs are. Launched in October 2019, SPEDXchange is an online resource that facilitates connections among those who serve special education students and their families, including special education teachers, speech-language pathologists, occupational therapists, school psychologists, and school district administrators. As with his previous efforts, his motivation is to ensure that students who need help get the best help possible.

A SPIRITUAL PLACE

In accepting his award, John acknowledged the role the University and the College played in making him a better clinician and a better person. "The best thing about receiving this award is the feeling that I get of being a part of something that is greater, something that is special," he said, adding that he considers the University of Illinois to be a spiritual place in many ways. "It's supportive, nurturing, full of wonder and knowledge. Professors, clinical supervisors, and peers all made me feel that I could accomplish anything, and that support was unwavering."

John remains connected to his alma mater as a member of the College of Applied Health Sciences Board of Visitors. He received the 2018 Louis M. DiCarlo Award for Recent Clinical Achievement from the American Speech-Language-Hearing Foundation. He is a Fellow of the Illinois Speech-Language-Hearing Association and was awarded its highest accolade, Honors of the Association, in 2017.

HAROLD SCHARPER AWARD

THE BOOKENDS OF A PROFESSIONAL LIFE

DR. PAT MALIK



DR. PAT MALIK, WHO BEGAN AND ENDED HER PROFESSIONAL CAREER AT THE UNIVERSITY OF ILLINOIS, WAS RECOGNIZED FOR HER MANY ACCOMPLISHMENTS WITH THE 2019 HAROLD SCHARPER AWARD.

When Pat Malik came to the University of Illinois in 1978, she had no intention of remaining after completing her master's degree in therapeutic recreation. Forty-one years later, she retired as the director of the Division of Disability Resources and Educational Services (DRES). In accepting the 2019 Harold Scharper Award, Pat said, "Like many things in life, things don't always work out the way we plan. Sometimes they work out even better."

A CAREER WITH UPS AND DOWNS

While Pat's professional journey began at Illinois, her interest in helping people grow through leisure activities was sparked as a young girl in New Hampshire. She took full advantage of the many programs offered by the local Girls' Club and volunteered there as a teacher during high school. At Springfield College in Massachusetts, she pursued a degree in therapeutic recreation and was introduced to the outstanding faculty at the University of Illinois during a conference presentation on leisure education. When she decided to pursue a master's degree, she threw all of her eggs in one basket and applied only to Illinois.

As a graduate student in what was then the Department of Leisure Studies, Pat had a quarter-time assistantship in DRES, where she was one of three graduate students who coordinated the recreation athletics program. One of the other graduate students was her predecessor in the DRES directorship, Brad Hedrick, and her supervisor was the founder and first director of DRES, Timothy Nugent, from whom Pat said she learned humility. "Dr. Nugent was brutally honest," she said. "Tim always said it the way he saw it and fought for what he believed in. He told you when he was proud of you and he also told you when he was disappointed in you. He would let us know when we made mistakes."

After completing her coursework for the master's degree, Pat took a tough but rewarding position with the Piatt County Mental Health Center. She returned to Illinois a few years later to complete a Ph.D., which led her to a tenure-track position at Illinois State University. After 10 years, she resigned from the position as an associate professor in order to help her husband Ron grow a business that had developed a new and improved model for group homes for people with disabilities.

“

LIKE MANY THINGS
IN LIFE, THINGS
DON'T ALWAYS WORK
OUT THE WAY WE
PLAN. **SOMETIMES
THEY WORK OUT
EVEN BETTER.**

–PAT MALIK

**MAKING
MISTAKES IS
PART OF LIFE.
MISTAKES MEAN
THAT YOU ARE
WILLING TO
TAKE RISKS.**

Sadly for Pat and Ron, their business fell victim to the State of Illinois' inability to pay its bills on time, and they had to shut it down. In 2005, she returned to DRES as the director of the Beckwith residential program and, as DRES grew, assumed responsibility for non-academic support services as well. Pat took over the leadership of DRES as interim director when Brad Hedrick retired in 2014, and was named director in 2016.

WHAT WOULD TIM DO?

In addition to humility, Pat said she also learned about optimism, making mistakes, excellence, and enthusiasm for exploring ideas and challenging the status quo during her time at Illinois. For her, optimism is about building hope, even when options seem limited. "Illinois also taught me that making mistakes is part of living life," she said. "Mistakes mean that you're willing to take risks." At DRES, she said, she saw excellence every day as she watched athletes work out in the Paralympic training center or observed DRES staff interact with and support students with disabilities.

Finally, she said, challenging the status quo through research, policies, and actions is an important part of the history of the College of Applied Health Sciences and DRES, and she believes AHS and DRES should continue to push the campus to do better when it comes to inclusion for people with disabilities.

Of the many things she accomplished during her time at Illinois, Pat takes the most professional pride in dedicating her career to helping students to find their voices and use them. When faced with challenges, she often thought, "What would Tim do? He wouldn't take the easy way," she said. "He always did what was right for students."

She hopes that is her legacy as well.

NEW FACULTY IN AHS

TWO OUTSTANDING SCHOLARS JOINED THE AHS FACULTY IN 2019

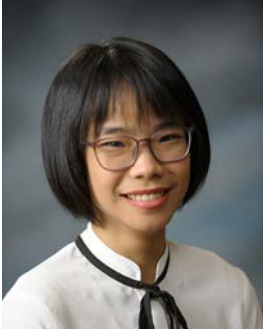


DR. JOHN KOSCIULEK
PROFESSOR
KINESIOLOGY AND COMMUNITY HEALTH

Dr. John Kosciulek joined KCH as a professor after 19 years at Michigan State University, where he was a professor in the Department of Counseling, Educational Psychology, and Special Education. He served as director of the Master of Arts Rehabilitation Counseling program from 2003-2015 and director of the doctoral program in Rehabilitation Counselor Education from 2016-2019.

His research focuses on the social determinants of health of people with disabilities who live in poverty as well as bioethics and disability. He is collaborating with researchers at Columbia University's Center on Poverty and Social Policy on an investigation of the relationships among policy, disability status, income, and such material circumstances as living conditions, food availability, health equity, and quality of life. In the area of bioethics and disability, his research focuses on such issues as genetic engineering, the right to die, and the relationship between mental illness and gun violence. He developed the Theory of Informed Choice in Vocational Rehabilitation and Consumer-Directed Theory of Empowerment. Dr. Kosciulek earned his Ph.D. in Rehabilitation Psychology at the University of Wisconsin-Madison. He has received a research award from the American Rehabilitation Counseling Association and served as editor of *Rehabilitation Education*, the flagship journal of the National Council on Rehabilitation Education.

Dr. Kosciulek said the opportunity to collaborate with other members of the Community Health faculty to develop a master's degree program in Rehabilitation Counseling was a strong motivator for making the move from Michigan State to Illinois. "The Chez Veterans Center, Division of Disability Resources and Educational Services, and other local and statewide programs offer maximum potential for high-quality clinical training, research, and service provision to individuals with disabilities," he said. He also is looking forward to developing collaborative research projects focused on community health, rehabilitation counseling, and disability with colleagues within AHS and across campus.



DR. SUIWEN (SHARON) ZOU
ASSISTANT PROFESSOR
DEPARTMENT OF RECREATION, SPORT AND TOURISM

The Department of Recreation, Sport and Tourism welcomed assistant professor Dr. Suiwen Sharon Zou to its faculty. Her Ph.D. in Recreation, Park and Tourism Sciences is from Texas A&M University. After completing her degree, she was a postdoctoral fellow in the U.S.-Asia Center for Tourism and Hospitality Research at Temple University, where she collaborated with the World Tourism & Travel Council on an industry white paper that identified opportunities for the travel and tourism industry to capitalize on the proliferation of mobile payments. She came to RST from a visiting professor position in the Department of Recreation, Parks and Tourism at San Francisco State University.

Dr. Zou applies marketing and psychology principles to her research on pricing and funding issues in tourism and leisure services. Her work addresses four areas: price messaging and framing; determinants of fee structures; the impact of fees on visitors and users; and profitability/funding of tourism and leisure organizations. Dr. Zou's current research projects strive to develop a pricing solution for public tourism and leisure services to achieve both equitable access and revenue generation to relieve the budget shortfall caused by decreasing government funding and increasing visitation/participation. She has led and worked on multiple consulting projects for such destination marketing/management organizations as Destination Canada, Travel Oregon, and the China National Tourism Administration.

The quality of the research produced by RST scholars attracted Dr. Zou to her present position. "Joining RST means that I will have the privilege of working with a group of exceptional scholars," she said. She also liked the emphasis within the department and the college on the role of leisure and tourism in individual and community well-being and was impressed by the "amazingly substantial" teaching and research support RST and AHS offer.

AWARDS + HONORS

NATIONAL AWARDS



DR. CARLA SANTOS

PROFESSOR AND HEAD

DEPARTMENT OF RECREATION, SPORT AND TOURISM

Dr. Santos was elected a **Fellow in The Academy of Leisure Sciences** for contributions to the leisure sciences field over the course of her career. She joined RST in 2002 after completing her PhD in Mass Communication at The Pennsylvania State University. Her research examines communicative practices (from mass mediated narratives to the face-to-face dyad) as a means of addressing the socio-political and cultural impact of tourism on the world's people and cultures. She has made significant contributions in the areas of cultural sustainability, heritage and tourism, and genealogical tourism, among others. Dr. Santos also serves as director of the European Union Center at the University of Illinois at Urbana-Champaign.



DR. TIMOTHY NUGENT

FOUNDER AND FIRST DIRECTOR

DIVISION OF DISABILITY RESOURCES + EDUCATIONAL SERVICES

Widely known as the "Father of Accessibility" and the founder of the Division of Disability Resources and Educational Services at the University of Illinois, Tim Nugent was posthumously inducted into the **U.S. Olympic & Paralympic Hall of Fame** as a member of the class of 2019. A professor of Rehabilitation Education at Illinois, Dr. Nugent died in 2015 at the age of 92. His research created the first architectural accessibility standards, which later served as the foundation for national standards. Through his work, he introduced the world to curb cuts and fixed-route accessible buses, and developed the first collegiate adapted sports and recreation program for students with disabilities.

COLLEGE AWARDS

EXCELLENCE IN
UNDERGRADUATE TEACHING
FACULTY



NICHOLAS BURD
ASSISTANT PROFESSOR

DEPARTMENT OF KINESIOLOGY AND
COMMUNITY HEALTH

EXCELLENCE IN
UNDERGRADUATE TEACHING
INSTRUCTOR



SUSAN DRAMIN WEISS
ASL INSTRUCTOR

DEPARTMENT OF SPEECH AND
HEARING SCIENCE

EXCELLENCE IN
UNDERGRADUATE TEACHING
TEACHING ASSISTANT



HENRY ANGULO
PHD STUDENT

DEPARTMENT OF SPEECH AND
HEARING SCIENCE

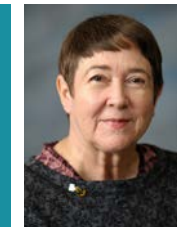
EXCELLENCE IN
GUIDING UNDERGRADUATE
RESEARCH



LIZA BERDYCHEVSKY
ASSISTANT PROFESSOR

DEPARTMENT OF RECREATION, SPORT
AND TOURISM

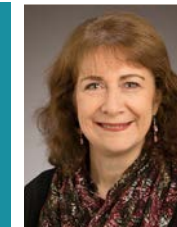
EXCELLENCE IN
ONLINE AND DISTANCE
TEACHING



SYNTHIA SYDNOR
ASSOCIATE PROFESSOR

DEPARTMENT OF KINESIOLOGY AND
COMMUNITY HEALTH

EXCELLENCE IN
UNDERGRADUATE
ADVISING



KATHI RITTEN
ACADEMIC ADVISOR

DEPARTMENT OF SPEECH AND
HEARING SCIENCE

AWARDS + HONORS

COLLEGE AWARDS

EXCELLENCE IN
GRADUATE AND
PROFESSIONAL TEACHING



JON WELTY-PEACHEY
ASSOCIATE PROFESSOR
DEPARTMENT OF RECREATION, SPORT
AND TOURISM

EXCELLENCE IN
GRADUATE STUDENT
MENTORING



LOU ECHOLS-CHAMBERS
TEACHING ASSOCIATE PROFESSOR
DEPARTMENT OF SPEECH AND
HEARING SCIENCE

PHYLLIS J. HILL JAMES
SCHOLAR AWARD FOR
EXEMPLARY MENTORING



JAKE SOSNOFF
PROFESSOR
DEPARTMENT OF KINESIOLOGY AND
COMMUNITY HEALTH

ACADEMIC PROFESSIONAL
EXCELLENCE AWARD



DICK DETZNER
SENIOR WEB DESIGNER
DEAN'S OFFICE

STAFF EXCELLENCE
AWARD



JULIE JENKINS
ADMINISTRATIVE CLERK
DEPARTMENT OF KINESIOLOGY AND
COMMUNITY HEALTH

CAMPUS AWARDS

CHANCELLOR'S
ACADEMIC PROFESSIONAL
EXCELLENCE (CAPE) AWARD



ADAM BLEAKNEY
HEAD COACH, MEN'S/WOMEN'S TRACK, FIELD, AND RACING
DIVISION OF DISABILITY RESOURCES AND
EDUCATIONAL SERVICES

EXCELLENCE IN
UNDERGRADUATE
TEACHING-INSTRUCTOR



SUSAN DRAMIN WEISS
ASL INSTRUCTOR
DEPARTMENT OF SPEECH AND
HEARING SCIENCE

ACADEMIC ADVISOR



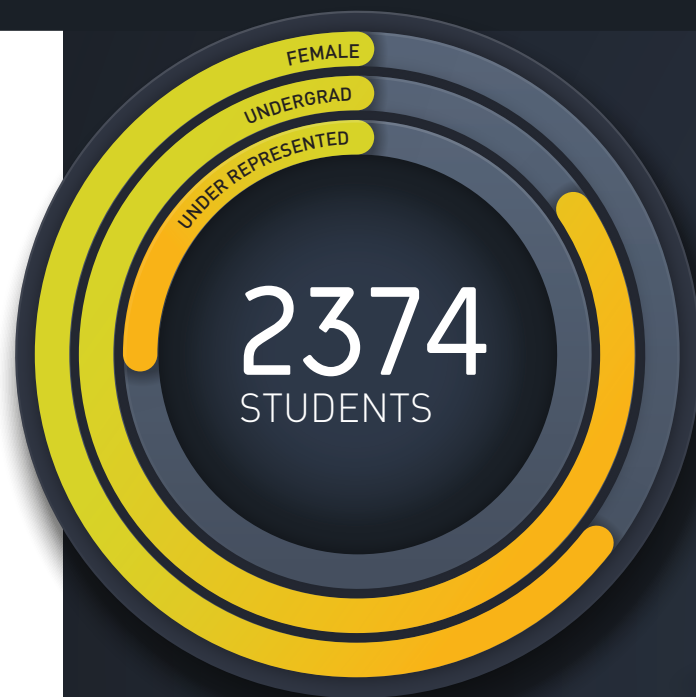
KATHI RITTEN
ASSOCIATE PROFESSOR
DEPARTMENT OF SPEECH AND
HEARING SCIENCE

LARINE Y. COWAN
MAKE A DIFFERENCE AWARD



MONIKA STODOLSKA
PROFESSOR
DEPARTMENT OF RECREATION, SPORT
AND TOURISM

2019-2020
AHS_BY THE NUMBERS



65%
OF AHS STUDENTS
ARE WOMEN



28%
OF AHS STUDENTS
ARE FROM
UNDERREPRESENTED
GROUPS



326 STUDENTS ARE
GRADUATES/PROFESSIONALS



MA

PhD

NONDEGREE

2048 STUDENTS ARE
UNDERGRADUATES



FRESHMAN

SOPHOMORE

JUNIOR

SENIOR

NONDEGREE

23,887 ALUMNI FROM 53 COUNTRIES



TOP 5 NATIONS / USA / CANADA / REPUBLIC OF KOREA / UK / AUSTRALIA

14%
OF AHS STUDENTS
ARE IN GRADUATE/
PROFESSIONAL
PROGRAMS



INTERDISCIPLINARY
HEALTH SCIENCE **365**

17 APPLIED HEALTH
SCIENCE COURSES

SPEECH &
HEARING SCIENCE **4,561**

RECREATION, SPORT
AND TOURISM **5,415**

KINESIOLOGY &
COMMUNITY HEALTH **15,535**

86%
OF AHS STUDENTS
ARE UNDERGRADUATES

25,892
DEGREES ISSUED



COLLEGE OF APPLIED HEALTH SCIENCES

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Assistant Dean and Director of IT: Mike Bohlmann
Assistant Dean for Advancement: Jean Driscoll

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Recreation, Sport and Tourism: Carla Santos
Speech and Hearing Science: Karen Iler Kirk
Division of Disability Resources and Educational Services: Kim Collins (interim)
Chez Center for Wounded Veterans in Higher Education: Reginald Alston (interim)

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