Dr. Brian Boyd, PhD, associate professor in the Division of Occupational Science and Occupational Therapy, has received prestigious national honors for his outstanding research from the world’s largest organization of special education professionals and educators. The 2016 Distinguished Early Career Research Award from the Council for Exceptional Children (CEC) recognizes scholars who have made significant contributions to basic or applied research in special education within 10 years of obtaining their doctoral degrees. Boyd received his doctorate in special education in 2005 from the University of Florida. The award stated that “Dr. Boyd is considered one of the most promising scholars in early childhood and autism. He has published 46 papers in top-tier journals, including the...”

A team of researchers headed by DAHS research methodologist and Assistant Professor Wanqing Zhang, PhD, MD, has identified rural-urban differences and differences in the likelihood of emergency department (ED) visits for children with autism. Their examination of data from ED visits in the United States from the 2009-2010 Nationwide Emergency Department Sample showed that 132,218 visits were associated with pediatric (three to 17 years) patients who had previously been diagnosed as having autism spectrum disorders (ASD). The average cost per ED visit for children with ASD was higher than that for children without ASD in all four U.S. census regions. Approximately 15 percent of the children with ASD lived in rural areas and had a significantly higher likelihood of visiting the emergency department than did their urban counterparts, after adjusting for other demographic/clinical characteristics. Dr. Zhang led an interdisciplinary team that included Drs. Brian Boyd (OT), Linnmarie Sikich (Psychiatry), Grace Baranek (OT), and graduate students Ashley Mason (OS) and Katie Williams (OS). The research was funded by the Health Resources and Services Administration (HRSA), with findings presented at the AcademyHealth’s Annual Research Meeting and at the 2015 Collaborative Autism Resources in Education meeting.

Boyd Receives Distinguished Early Career Research Award

Dr. Brian Boyd, PhD, associate professor in the Division of Occupational Science and Occupational Therapy, has received prestigious national honors for his outstanding research from the world's largest organization of special education professionals and educators. The 2016 Distinguished Early Career Research Award from the Council for Exceptional Children (CEC) recognizes scholars who have made significant contributions to basic or applied research in special education within 10 years of obtaining their doctoral degrees. Boyd received his doctorate in special education in 2005 from the University of Florida. The award stated that “Dr. Boyd is considered one of the most promising scholars in early childhood and autism. He has published 46 papers in top-tier journals, including the...”
Dr. Prudence Plummer, PhD, PT, an assistant professor in the Division of Physical Therapy, has received a $40,000 grant from the National Multiple Sclerosis Society for a pilot study to look at the combined effects of a drug and physical therapy for gait rehabilitation in multiple sclerosis (MS).

Read more about Dr. Plummer and team’s research below.

**How will this research address gait rehabilitation for people diagnosed with MS?**

People with MS frequently experience difficulties with walking, due to nervous system damage. Traditionally, physical therapy (gait rehabilitation) and medication (pharmacological management) have been separate approaches for the treatment of walking impairments in people with MS. Dalfampridine, also known as the “walking pill,” has been developed to help improve walking impairments for patients with MS. The drug has been shown to have promising effects for approximately 40 percent of those who take it.

Dr. Plummer and team’s research will provide insight as to whether providing physical therapy to people who are prescribed Dalfampridine can further improve walking impairments. They will assess whether the combined treatment produces better outcomes in walking tasks and cognition as compared to medication and no physical therapy.

**How will the team assess the effectiveness of the combined treatment plan?**

Dr. Plummer, as principal investigator, along with co-investigators Dr. Silva Markovic-Ples, PhD, associate professor of Neurology, and Dr. Barbara Giesser, professor of neurology at UCLA, will recruit 10 MS patients who have been prescribed the walking pill by their physician. Researchers will assess walking and cognition before participants take their first dose of the medication and after six weeks. During this time, participants will not receive physical therapy.

Following the initial six weeks of treatment with dalfampridine only, half of the participants will be assigned to receive six weeks (18 sessions) of physical therapy gait training while continuing to take their medication; the other half will con-
Tyson Harmon, a Speech and Hearing Sciences doctoral student, has received a $5,000 American Speech-Language-Hearing Foundation Graduate Student Scholarship for outstanding academic achievement. Harmon’s research focuses on neurogenic communication disorders – disorders marked by one’s inability to exchange information with others due to nervous system impairment. His work has focused on improving speech and language treatment for people with aphasia and apraxia of speech and on social validation of treatment targets and measurement of mood in aphasia. Also interested in interdisciplinary education, Harmon has initiated a program for educating interdisciplinary therapy students about aphasia.

Harmon received the award at the 2015 American Speech-Language-Hearing Association (ASHA) meeting in Denver in November. “This scholarship gives me confidence that I can achieve my educational and professional goals,” Harmon said. “The assistance will free up time and resources that I can invest in my training. I am grateful for the support.”

Elizabeth Poindexter joined the Department of Allied Health Sciences as the director of communications in October 2015. As part of her work in the DAHS, Elizabeth will promote research to both internal and external audiences. Her work will ensure that research is shared across multiple platforms to reach DAHS goals as outlined in the strategic plan. Elizabeth and her team also assembled this research newsletter.

Previously, Elizabeth worked in nonprofit marketing and communications in Durham. The North Carolina chapter of the Public Relations Society of America (NCPRSA) recognized her work with two awards in early 2015. A 2010 graduate of UNC-Chapel Hill’s School of Media and Journalism, she has orchestrated award-winning marketing campaigns, which resulted in raising awareness, mobilizing volunteers, and driving donations toward Durham’s nonprofits.

Before transitioning to communications, Elizabeth spent three years working as a one-man-band reporter in television news. While at WHSV in Harrisonburg, Virginia, she worked as a general assignment reporter, bureau chief and fill-in anchor and producer. She has also worked as a newspaper reporter at the Florence, South Carolina, Morning News, which shared content with CBS affiliate WBTW. Elizabeth has covered stories for all platforms of media, including newspaper, television, web, and photography. While reporting, Elizabeth received two awards from the South Carolina Press Association and a scholarship for continuing education at The Poynter Institute.

Elizabeth has worked as a freelance writer and communicator for several companies and nonprofits. She has written a monthly column for the Durham News newspaper since September 2014. She currently volunteers on the content marketing subcommittee with nonprofit Girls on the Run of the Triangle, where she volunteered as a coach for three seasons.

While at UNC-CH, Elizabeth interned at WTVD, WUNC, UNC-CH’s Office of Communications and Public Affairs, The Daily Tar Heel, and UNC-CH’s student-run news show “Carolina Week.” She is currently enrolled in UNC’s Certificate in Technology and Communication also offered by the school. In this certificate program, she is studying writing and editing for digital media, visual communications, and data analyses.
<table>
<thead>
<tr>
<th>TITLE</th>
<th>TEAM</th>
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<th>FUNDING AGENCY (SUBCONTRACT)</th>
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<td>Quality Improvements for Sweat Testing in Infants</td>
<td>LeGrys, Vicky</td>
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<td>Combining Dalfampridine and Physical Therapy for Gait Rehabilitation in Multiple Sclerosis</td>
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<td>NRI Novel Platform for Rapid Exploration of Robotic Ankle Exoskeleton Control Strategies to Augment Health or Restore Post Stroke Location</td>
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Dr. Ruth Humphry Delivers 2015 Zemke Lecture

Dr. Ruth Humphry, PhD, Professor of Occupational Science, delivered the Ruth Zemke Honorary Lecture in Occupational Science History at the 2015 research conference of the Society for the Study of Occupation in Fort Lauderdale in October. Her keynote address, titled, “Appropriation and transformation of occupations: So what is know-how anyway?” will be published in an upcoming issue of the Journal of Occupational Science. Many UNC-CH students, faculty, and alumni participated in the conference.

“I chose the topic of ‘know how’ because I feel like children, specifically both very young children and those with disabilities, are often underestimated. We tend to look at child with special needs through the lens of the diagnosis or area of developmental delay (be it communication, cognition, or motor ability), and this is reflected in our pervasive use of remedial approaches with children.

I have personally experienced far too many times the sudden realization that a child I had underestimated knew how to participate. I see a problem in the way we have been thinking about children’s occupations and hope to help redefine what is going on in the developmental process.”

-Dr. Ruth Humphry

MS Study

Dr. Plummer’s research team is investigating the effects of a medication called the “walking pill” for people living with MS. The medication, which is approved by the FDA for treating depression, reduces walking impairments and improves quality of life. The control group will attend the same number of sessions with a physical therapist but instead of receiving active physical therapy, they will receive wellness education. After the combined treatment period, Dr. Plummer’s team will compare changes in walking and in mental processing speed. A follow-up will also be conducted six weeks later.

What are the expected outcomes of this research?

This research will provide important preliminary findings on the efficacy of combining physical and pharmacological therapy for improving walking in people with MS. A larger study will be needed to determine whether the combined treatment is more effective than either treatment alone. It is hoped that this research will allow future optimization of treatment for improving walking impairments and quality of life for people living with MS. The research also will provide a better understanding of the extent to which the walking pill can improve other functional tasks, such as mental processing speed and walking in more realistic conditions.

Boyd, Early Career Award

Journal of Child Psychology and the Journal of Autism and Developmental Disorders, and his work is cited frequently.” Dr. Boyd has also been highly successful in securing considerable competitive, federal funding for his work from the National Institutes of Health and the U.S. Department of Education.

Selected through a confidential review process, the award recognizes high-quality scholarship across multiple research methodologies conducted by students in the course of their undergraduate or graduate special education training. Dr. Boyd will receive the award at the CEC annual convention and has been invited to present at the convention the following year.
Nancy Quick, a third-year doctoral student in the Division of Speech and Hearing Sciences, has won recognition from the UNC School of Medicine Division for her presentation “Significant cognitive disabilities and hearing loss: Can you hear me now?”

“I realized that the connection of how hearing impacts learning and education hasn’t been made in the community of educators that work with this population,” Quick said. “I’ve taken this up as my new focus to make sure these kids get access to what they need, because I think they have great potential that’s been untapped.”

Quick’s presentation was one of more than 100 entries as a part of Student Research Day.

Dr. Debby Givens, PT, PhD, DPT, director of the Division of Physical Therapy, recently received a $50,000 grant from the NC TraCS Institute to conduct a pilot study of research rehabilitation and knee osteoarthritis. Knee osteoarthritis (OA), is prevalent, and knee replacement surgeries are on the rise. Quadriceps weakness is one of the most modifiable risk factors and treatment for OA, but strengthening efforts are limited by neural mechanisms that contribute to persistent quadriceps inhibition and pain. Previous research has found that interventions that affect neural mechanisms may serve as valuable adjuncts to exercise for quadriceps weakness. However, there is a considerable gap in understanding as to how to effectively treat knee OA-related quadriceps inhibition.

A critical first step of this pilot program is to establish a comprehensive infrastructure to explore factors that contribute to persistent quadriceps weakness with knee OA. The goal is to overcome natural barriers to strengthening quadriceps muscles weakened with knee OA and to provide laboratory and clinical methods to evaluate deficits and treatment efficacy. Dr. Givens’ innovative intervention approach is grounded in knowledge that repetitive transcranial magnetic stimulation (rTMS) can increase motor excitability in neurological conditions such as stroke and can relieve chronic pain. However, TMS has not been applied to rehabilitate knee OA. Givens and her team hypothesize that rTMS over the primary motor cortex will increase motor excitability and will interfere with the knee OA-related inhibition of maximal quadriceps contraction to ultimately reduce pain. The study will initiate this research program and develop pilot statistics to facilitate the design of a large-scale, prospective, randomized controlled trial of treatments that replace or delay invasive, irreversible interventions for knee OA.

Co-Investigators for this pilot program include: Dr. Brian Pietrosimone (Exercise and Sport Science); Dr. Rick Gracely (Center for Pain Research and Innovation); Dr. Lauren Porras (Orthopaedics and Family Medicine); Dr. David Berkoff (Orthopaedics and Emergency Medicine); and Dr. Young Truong (Biostatistics)

New Faculty and Staff

KENYA HAUGEN joined the Division of Radiologic Sciences as Clinical Assistant Professor.

TRACY VELEZ joined the Physician Assistant Program as Administrative Support Specialist.

KAYLA CONLEY joined the Student Services Division as Administrative Support Specialist.

JACINDA BILYEUX is now Executive Assistant to Dr. Hooper, DAHS Chair and Associate Dean.

AMY MCLEMORE joined the Division of Physical Therapy as Administrative Support Specialist.

ELIZABETH POINDEXTER joined the Administrative Offices as the director of communications.

STEPHANIE PHIPPUS joined DAHS as the new Assistant Director for Development.
For the past 15 years, North Carolina Native Ben Triplett has lived and studied in the Triangle. Originally from Sherrills Ford, NC, he is completing his MS in Occupational Therapy at his alma mater, UNC-Chapel Hill.

Throughout his graduate program, Triplett has been a Work-Study student in the Office of Research where he assists with data management, study recruitment, administration of assessments, literature reviews, and interview transcription, as well as participating in discussions about study design.

After obtaining his undergraduate degree from UNC-CH, Triplett attended seminary at Duke, where he studied religion and theology. Triplett’s interest in occupational therapy began after graduating seminary, when his sister, a speech language pathologist, helped him realize his passion for understanding people and their day-to-day lives. Triplett will begin his final internship at Duke University Hospital this summer.

Looking forward, Triplett hopes to draw upon the client-based interaction of mental health work he experienced during a fieldwork assignment at a psychiatric hospital. Read more from our conversation with Ben.

What is your research this semester and what initiated your interest in this area? I am researching how humility might influence the power dynamic in the therapeutic relationship. The literature on the therapeutic relationship mentions humility as an important quality, but the literature does not define humility or its role in the therapeutic rela-
tionship.

What are your career aspirations? I hope to serve invisible communities, such as the mental health community and immigrants to North Carolina. I am also interested in contributing to our profession’s theoretical foundations.

How does your career as a pastor influence your work in occupational therapy? When I first aspired to become an occupational therapist, I was determined to bring with me the same challenge that I felt when I was a pastor, which was to somehow serve the people who were being overlooked. While the mechanics of occupational therapy will be much different than church ministry, I am hoping to draw from my work in seminary, where I was taught the skill of close reading, which involves both critical reading and charitable reading. I feel that this skill manifested in being able to better empathize with people in my work.

David E. Yoder Symposium

The Division of Speech and Hearing Sciences hosts the Yoder Symposium every two years to honor David E. Yoder, professor emeritus and former chair of the Department of Allied Health Sciences. This year’s speaker was Dr. Rebecca Landa, a professor at Johns Hopkins University, who gave a talk titled “Early Developmental Patterns in Young Children at Risk for ASD and Optimizing Development Through Intervention.” To date, no autism-specific markers have been identified in early-to-mid infancy. However, in numerous studies, infants at increased familial risk for ASD have been reported to exhibit delayed or atypical patterns of early development.

2016 Human Movement Science Symposium

The 2016 Human Movement Science and Biomechanics Research Symposium featured keynote speaker Louie E. DeFrate, Sc.D. DeFrate is the Frank H. Bassett III, MD, endowed chair and an associate professor in the Department of Orthopaedic Surgery at Duke University Medical Center. To date, DeFrate has published more than 55 peer-reviewed journal articles. His work focuses on investigating how in vivo changes in the mechanical environment of cartilage potentially predispose the joint to early onset osteoarthritis.
For the 2016 Mitchell Symposium, the Division of Occupational Science and Occupational Therapy welcomed Staffan Josephsson, PhD, OT, and professor of occupational therapy at the Karolinska Institutet in Stockholm, Sweden. Dr. Josephsson’s research has focused on activity in relation to creativity, involvement, and participation for people with chronic disabilities. His expertise in the narrative tradition of research emphasizes the everyday lived experiences of people. Dr. Josephsson’s contributions to occupational therapy and occupational science are significant and it was an honor to host him for the 2016 Mitchell Symposium.

The Mitchell Symposium consists of a formal public lecture, a scholarly seminar with doctoral students and faculty, a lunch meeting with the MSOT students, and individual meetings with students and faculty. The event is named in honor and memory of Dr. Marlys Mitchell, the founder of the master’s program in occupational therapy at UNC.

Dr. Josephsson’s public lecture titled “Transactional Perspectives on Occupations: Missed Possibilities in Research and Practice” emphasized the need for occupational therapists and occupational scientists to take a holistic approach to viewing humans and their actions. Dr. Josephsson highlighted the tendency for researchers, theorists, and clinicians to study, articulate, and rehabilitate human action in reductionist terms. He argued that the development of theoretical concepts, and associated language, tends to reify action into separable parts which poorly reflect the wholeness of the lived experience. Dr. Josephsson’s presentation pushed the boundaries of students’ theoretical and practical understandings of meaningful action and has subsequently fueled numerous discussions regarding how to build onto his ideas.