College of Education welcomes two new research centers committed to advancing children’s well-being

This fall, the College of Education welcomed two new research centers – the Center for Pediatric Locomotion Sciences and the Urban Child Study Center. These centers join the Center for School Safety, School Climate and Classroom Management as epicenters of research on issues facing educators across the country and around the world.

Center for Pediatric Locomotion Sciences

For adults, the ability to walk from point A to point B is often an unconscious means to an end. You walk from your front door to your office or classroom, to lunch, to meetings and back home again without taking much time to think about the physical act of moving.

This isn’t always the case for kids, as College of Education Professor Mark Geil and Assistant Professor Jerry Wu can attest.

“For a child, locomotion is an adventure. It’s an opportunity to explore life, to imagine, to create a journey,” Geil said.

Geil and Wu both study different aspects of children’s movement – Geil examines prosthetic knees in children while Wu tackles the effects of physical interventions with people with disabilities. Though their research is often conducted independently, they thought they might make more strides in addressing children’s movement issues by teaming up with other researchers at Georgia State and in the metro-Atlanta area.

Thus came the idea for the Center for Pediatric Locomotion Sciences, which launched in September and focuses its efforts on improving the lives of children and adolescents with movement disorders.

More specifically, the center is conducting exploratory locomotion research in four primary areas that challenge children: idiopathic toe walking, Down syndrome, lower limb amputation and cerebral palsy.

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Geil and Wu work with affiliated faculty from Emory University, the Georgia Institute of Technology and Children’s Healthcare of Atlanta, collaborating on research projects, securing funding for further study and planning a large symposium on pediatric locomotion set for this spring.

This work, in turn, could lead to changes in the way health care providers treat children who face movement challenges.

“Establishing this center will bring researchers and clinicians together to work on projects that have a huge impact in the quality of life for children who have Down syndrome and other movement disabilities,” Wu said. “We are looking forward to conducting more groundbreaking research and finding new treatment options and services we can provide to children with disabilities.”

**Urban Child Study Center**

Nicole Patton Terry understands that supporting children in urban schools means more than just evaluating a child’s teacher or assessing academic performance.

“Children living in urban communities face complex challenges and in order to address their needs, you need to work with their teachers, their neighborhoods and their families,” said Patton Terry, College of Education professor and director of the newly-formed Urban Child Study Center. “We must focus on their entire lives and their entire contexts, and that means the programs we have, the research we do and the initiatives we put forth will be just as focused on the children as their communities, their families and their schools.”

The college’s location in downtown Atlanta and its emphasis on interdisciplinary research make it an ideal setting for the Urban Child Study Center, which promotes the overall development and school success of children and youth in urban contexts through innovative research that informs policy and practice.

Leveraging the college’s and university’s talent and resources, the center focuses on a number of issues, including achievement gaps and associated risk factors, learning and health disparities, language and literacy development, and teacher knowledge.

Patton Terry believes that this work will also serve as a model and give answers to educators in other major U.S. cities.

“We know that we have the resources, the expertise, the partnerships and the will to address these problems in a way that not only provides solutions for students in Atlanta, but also for children in other urban areas across the country,” she said.

**FOR A CHILD, LOCOMOTION IS AN ADVENTURE... AN OPPORTUNITY TO EXPLORE LIFE, TO IMAGINE, TO CREATE A JOURNEY.**
Center for School Safety, School Climate and Classroom Management

The Center for Pediatric Locomotion Sciences and the Urban Child Study Center join the Center for School Safety, School Climate and Classroom Management, which was established at Georgia State University in 2000 to conduct research and outreach/service projects involving school safety, school violence prevention, school climate, classroom management and other related topics.

Faculty who work in the center have published extensively on bullying and cyberbullying, including a 2011 article in *Youth & Society* that identified ways students cope with cyberbullying that previous literature hadn’t identified.

So what’s next for the center? Developing the best strategies to prevent bullying before it starts.

“We’ve begun an international effort to study bystanders and to get their input,” said Joel Meyers, the center’s executive director. “By interviewing bystanders, we want to develop ideas about how to intervene and to do preventive work in schools that will hopefully prevent bullying and reduce negative effects of bullying – not just in the Atlanta area, but throughout the country and the world.”

For more information on the center, visit [schoolsafety.education.gsu.edu](http://schoolsafety.education.gsu.edu).

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Student Spotlight: Daniel Fanchiang

When a person walks across a room, his feet typically move with a heel-to-toe motion. But for some, this gait pattern doesn’t come naturally.

Instead, they walk on their toes.

College of Education doctoral student Daniel Fanchiang has focused his dissertation on idiopathic toe walkers, or those people who walk on their toes, and how to help them achieve a more natural gait.

“If they walk on their toes before they turn three years old, it’s considered normal. But after three years, if they still walk on their toes and don’t have any neurological or musculoskeletal diseases, then it’s considered ‘idiopathic,’” he explained. “That’s why we call it ‘idiopathic’ – because we don’t know the cause of it.”

Fanchiang helped his adviser analyze data from a study they conducted on idiopathic toe walkers and their gait patterns. It was during this analysis that Fanchiang began wondering if he could create an orthotic treatment that better addresses idiopathic toe walkers’ needs than those on the market presently, which typically hold a person’s ankle at 90 degrees.

“With our normal gait, we need our ankle to exceed 90 degrees at some point,” Fanchiang said. “I talked to my adviser and asked him, ‘Have you seen this kind of device for idiopathic toe walkers?’ and he said no. So I said, ‘I’m going to build it.’”

It took him about a year to create a prototype that locks and unlocks at the right time to give the person wearing it more flexibility in their movements. Fanchiang is in the process of applying for a non-provisional patent on his orthotic prototype, and though it’s still a long way from being manufactured and sold, he’s hopeful that it becomes an accepted form of treatment.

“I hope it helps give people a more natural gait,” he said.
Four faculty members in the College of Education received Teacher Quality Enhancement grants from the U.S. Department of Education, which support projects that improve student achievement and teacher preparation.

These projects offer professional development opportunities for teachers in high-need schools to learn more about mathematics, economics and science, and create engaging lesson plans that address the Common Core Georgia Performance Standards.

“Building high school teachers capacity to teach mathematical modeling using technology-supported simulations”

Assistant Professor Iman Chahine

The project focuses on strengthening teachers’ knowledge and skills for teaching applied mathematical modeling to high school students and to develop students’ problem solving skills through guided inquiry and using dynamic technology simulations.

“Partnering to enhance the teaching of analytic geometry (PETAG)”

Associate Professor Christine Thomas

This is a collaborative project developed as a partnership among the Fulton County Schools and Georgia State University’s Colleges of Education and Arts and Sciences. The project is designed to serve 25 high school mathematics teachers, engaging them in experiences that foster an in-depth study of the Common Core Georgia Performance Standards in analytic geometry.

“Integrating technology into microeconomics instruction”

Associate Professor Joe Feinberg

Teachers from Fulton County Schools and Atlanta Public Schools will begin with a one-week workshop at Georgia State University with at least one day spent at the Federal Reserve Bank of Atlanta. There will be follow-up meetings where participants will share and reflect on their use of the artifacts created during the initial workshop.

“Our changing world: Exploring crosscutting ideas involving Earth and life through time”

Assistant Professor Anton Puvirajah

In this workshop, teachers implement a curriculum with crosscutting concepts in science and Common Core standards, attending to the nature of science, developing students’ scientific practices through inquiry-infused experiences, creating active learning opportunities for middle school life science and earth science classrooms.

COE Projects with Continued Funding

The College of Education has several local, state and nationally-funded projects that received funding in 2013 to continue their work. These include:

Gwen Benson
Network for Enhancing Teacher Quality Project
U.S. Department of Education
$2.09 million

Amy Lederberg
Center for Literacy and Deafness
U.S. Department of Education
$2.07 million

Daphne Greenberg
Center for the Study of Adult Literacy
U.S. Department of Education
$2 million

Sherry Howard
Best Practices Training Initiative
Bright from the Start program
$1.48 million

Julie Washington
Basics of Reading Deficits in African-American Children
National Institutes of Health
$1.12 million

Walt Thompson
After-School All-Stars Atlanta
Georgia Department of Human Services
$950,000

Peggy Gallagher
Project SCEIS
Babies Can’t Wait
$402,425

Gwen Benson
Robert Noyce Impacting Babies Can’t Wait
Metro Atlanta Science Teaching Program
National Science Foundation
$263,719