

The Community for Advancing Discovery Research in Education (CADRE), a resource network funded by the National Science Foundation, supports researchers and developers who participate in Discovery Research K-12 (DR-K12) projects. The CADRE Fellows program provides a small number of emerging researchers and developers with the opportunity to attend the 2009 DR-K12 PI meeting and engage in ongoing professional support as a part of the network. This is a significant professional development experience for early career researchers and developers to gain exposure beyond their particular project and institution and to learn about research and development from across the country related to STEM education. Fellows will have the opportunity to experience an NSF PI meeting alongside their own PI, network with PIs and fellows from across the country, and gain insights into the NSF and what it takes to be successful and effective in this work.

### **Leigh Arino de la Rubia**

Leigh Arino de la Rubia recently received her doctoral degree from Tennessee State University (TSU) and is currently a research project director in the TSU Center of Excellence for Learning Sciences. As a part of her duties, she is the project coordinator for the Astrobiology in the Secondary Classroom Curriculum Development Project, an effort sponsored by the DRK-12 program that connects high school students in minority communities with authentic data and interdisciplinary scientific experiences. This project currently has six pilot sites in a diverse group of minority communities across the United States from Native American reservations in Arizona to urban high schools in Florida. As the project coordinator, Leigh visits each site to connect with teachers, train them in best practices for implementing ASC activities, and build relationships with the community in order to bring high-quality science instruction to students who need it most. She also contributes to the project as the lead curriculum developer and as a research assistant. Her personal research interests are in effectively educating non-mainstream students in STEM areas, the intersection of culture and science, communicating cutting-edge science to students, and the impacts of the implicit science curriculum upon students and teachers. For her dissertation, she surveyed over 700 college students enrolled in biology courses at a historically Black university to better understand these diverse students' scientific epistemological views and to create a profile of African-American students' epistemologies of science. Leigh holds a B.A. in psychology from Vanderbilt University, an M.S. in biological science, and an Ed.D. in curriculum and instruction, both from Tennessee State University.

### **Melissa Braaten**

Melissa Braaten is a doctoral student in science education at the University of Washington and has been a research assistant with Mark Windschitl and Jessica Thompson since 2006. Her research interests include fostering ambitious science teaching in communities of preservice and early career teachers, studying how teachers and their students learn to engage in epistemic practices of science, such as explanation and argumentation, and using ethnographic and case-study methods to understand learning.

## **Cynthia D'Angelo**

Cynthia D'Angelo is a Ph.D. candidate in science education at Arizona State University. She received a bachelor's degree in astrophysics at the University of California at San Diego and a master's degree in physics at Arizona State University. She has always been interested in learning and teaching, especially with respect to physics. She has worked on a variety of research projects in different settings, ranging from middle school physical science curriculum projects, math and science high school teacher professional development, and undergraduate students' understanding of physics concepts. Her dissertation research examines student learning of introductory physics and vector concepts within a videogame. The game, SURGE, has been developed as part of an NSF-funded project to help eighth-grade students develop their tacit, everyday understandings of force and motion concepts into formalized, school-based physics concepts.

## **David Majerich**

David Majerich earned a doctorate in curriculum, instruction, and technology in education with a major in science education (emphases in physics and chemistry) and mathematics education at Temple University in 2004. Prior to that, he earned a master's degree in science education (emphases in physics and chemistry) and mathematics education from the University of Pennsylvania, Philadelphia. He holds a master's degree and bachelor's degree in physics from Wichita State University and Muhlenberg College, respectively.

Majerich's graduate research focused on the development and evaluation of a science lecture demonstration technique aimed at improving the usage of materials for the teaching of science, but also aimed at improving students' learning of science concepts when taught with demonstrations. These efforts have focused on the incorporation of technology in the classroom to develop and reinforce students' conceptual understanding of science concepts while illustrating the relevance of science to students' everyday lives. The research on the development of the science lecture demonstration is in its fifth year, and the method has now been used at multiple high school and university sites. A byproduct of his research resulted in the publication of a "Compendium of Science Demonstration-related Research from 1918 to 2008." He speaks at local, national, and international symposia about the positive effects of his research-based method on student achievement, conceptual understanding, perceptions of the learning environment, and student retention in the sciences.

Majerich is currently a post-doctoral fellow for a DR-K12 project entitled SAVE Science: Situated Assessment using Virtual Environments for Science Content and Inquiry. Mentored by Diane Jass Ketelhut (Temple University), Catherine Schifter (Temple University), and Brian Nelson (Arizona State University), he is the program manager for the research project. He is also a research associate with the Equity Studies Research Center at Queens College, City University of New York. In addition to the aforementioned research experiences, he has taught science and mathematics education methods courses at Temple University's College of Education and the University of Pennsylvania's Graduate School of Education.

## **Andrew Morozov**

Andrew Morozov is a graduate student in the Learning Sciences program in the Department of Educational Psychology at the University of Washington. As an RA in his department, he is collaborating with Professor Min Li on a study of feedback practice in science and mathematics education. Morozov's research interests include cognition, assessment, and motivation in STEM education. His current research focuses on the patterns of high school students' involvement in a university-sponsored engineering design competition. Besides working and studying, Andrew also enjoys reading, hiking, and tennis.

## **Sytil Murphy**

Sytil Murphy received her Ph.D. in physics in July 2008 from Montana State University under John Carlsten. Upon completion, she joined the Physics Education Research group at Kansas State University working under Dean Zollman. Two of her current projects, The Physics Teaching Web Advisory and the National Study of Education in Undergraduate Science, are associated with DR-K12 and have inspired her to further the efforts to improve STEM education at the K–12 level.

## **Scott Strother**

Scott Strother, a research associate at Education Development Center, Inc., in the Center for Children and Technology (CCT), received his M.A. in experimental psychology from the University of Louisville and is currently ABD and finishing his Ph.D. in the same program. Since joining the CCT in April 2006, Strother has been working on the Intel Teaching Thinking with Technology program examining teachers' ability to use Web-based learning tools. He has also contributed to CCT's research with the Partnership for 21st Century Skills, the Ready to Learn project, eMINTS Missouri, ABE-NY, the New Mexico Reading First initiative, and others. He has expertise in statistics and methodology as well as instrument creation and has worked with teachers extensively.

## **Benjamin Wiles**

Benjamin Wiles completed a B.S. in mathematics with a specialization in education and a minor in music theory. While an undergraduate, he engaged in educational research related to fostering problem-solving abilities in young students with learning disabilities. Also, while an undergraduate, he received awards for industry work in automotive engineering for his contributions to the development of algorithms for the deployment of safety systems in passenger vehicles (also acknowledged as co-inventor on the subsequent U.S. patent) and further for his contributions to the development of an inter-platform co-simulator for automotive systems. He enjoyed a brief stint teaching middle school mathematics and was awarded a Knowles Mathematics Teaching Fellowship. He forewent the fellowship to attend graduate school in mathematics, where he studied number theory and improved certain bounds related to "Lehmer's Mahler Measure Problem." He spent his summers helping design and implement professional development workshops for K–8 mathematics teachers and working on projects to improve access to education for underrepresented populations. He is currently a doctoral student in special education at Purdue University working on the development and implementation of software and instructional interventions to nurture the mathematical development of young students with learning disabilities under Professor Yan Ping Xin.