Community for Advancing Discovery Research in Education

2014–2015 CADRE FELLOWS BIOGRAPHIES

Carrie Allen

University of Colorado Boulder

Carrie Allen is a PhD Candidate in Educational Psychology and Learning Sciences at the University of Colorado in Boulder. Her research focuses on preparing and supporting teachers to enact critical and equitable instructional practices in science education in ways that promote student participation, learning, and sense of belonging. Additionally, she examines the organizational conditions required for teachers to integrate such practices into their instruction. She is particularly interested in how teachers' instructional practices can reposition youth as co-producers of knowledge and partners in shaping education reform. Allen has explored these areas of research on two NSF-funded projects: Efficacy Study of Project-Based Inquiry Science and Urban High School Opportunity Structures, Figured Worlds of STEM, and Choice of Major and College Destination. Before beginning her doctoral studies, Allen taught high school ELA and coached soccer and gymnastics in the Seattle area. Allen received her BA in English Literature from Western Washington University and her Master in Teaching degree from Seattle University.

Project: Efficacy Study of Project-Based Inquiry Science

PI: Christopher Harris

Nicola Barber

University of Utah

Nicola Barber is a postdoctoral fellow at the University of Utah's Genetic Science Learning Center. Since completing her PhD in Molecular and Cell Biology at the University of California, Berkeley, she has been working to bring authentic science research and practice into the classroom. Her postdoctoral work includes science education research, curriculum development, teaching, and the development and management of a program that brings graduate students and hands-on science activities into K-12 classrooms. As a research associate on a DRK-12 project to develop and test high school evolution curriculum and assessments, Barber is leveraging published scientific data to develop evolution lessons that realize the three-dimensional learning prescribed by the Next Generation Science Standards. She is particularly interested in how generating data-based evidence and argumentation impact student understanding of evolution.

Project: Building High School Students' Understanding of Evolution through Collection and Analysis of Data, Evidence-Based Arguments, and an Understanding of Heredity

PI: Louisa Stark

Miriam Gates

Education Development Center, Inc.

Miriam Gates is a research associate at the Education Development Center, Inc., working on mathematics education projects with a focus on assessment creation, and professional development. Gates is currently working on two DR K-12 grants: Assessing Secondary Teachers Algebraic Habits of Mind (ASTAHM) and Electronic Communities for Mathematics Instruction (eCMI). In her role with ASTAHM, Gates is supporting the development of a pen and paper assessment and associated observation protocol designed to measure teacher use of mathematical habits of mind. In addition, Gates is managing the eCMI research effort to explore an online synchronous professional development program for in-service mathematics teachers. As a former high school mathematics teacher herself, Gates has particular interest in working with in-service educators and the implementation of important, genuine assessment in classrooms and with teachers. Gates earned her AB in Political Science from Bryn Mawr College and her MEd in Educational Psychology from Temple University.

Project: Assessing Secondary Teachers' Algebraic Habits of Mind (Collaborative Research: Sword)

PI: Sarah Sword

Carlos Nicolas Gomez

University of Georgia

Carlos Nicolas Gomez is a doctoral student in the Mathematics Education program at the University of Georgia. He is a research assistant working with AnnaMarie Conner on the Learning to Support Productive Collective Argumentation in Secondary Mathematics Classes (L-SPAM) project. The project focuses on the ways that prospective teachers learn to implement and support collective argumentation. His focus in the project is exploring the participants' professional identities and how these influence their decision making processes. His dissertation focuses on the developing teacher-of-mathematics identity of prospective elementary teachers. In particular, Gomez is interested in the ways prospective teachers' emotional experiences during field components influence how they value their teacher preparation course work. His other research interests involve explorations of the influence of gender in the mathematics classroom.

Project: CAREER: Learning to Support Productive Collective Argumentation in Secondary Mathematics Classes

PI: AnnaMarie Conner

Monica Gonzalez

University of Houston

Monica Gonzalez is a second year doctoral student in the College of Education at the University of Houston. She is a graduate research assistant supervised by Imani Goffney on the Mathematical Knowledge for Equitable Teaching project. She assists with data collection that includes drafting communications with undergraduates and managing large groups of students. She also assists with data analysis that includes interpreting students' ideas and work as well as creating data analysis plans to study research questions from the

project. Gonzalez was an elementary mathematics teacher and later an elementary assistant principal. Her experiences have led her to want to study equitable teaching practices that will help diverse students be successful in mathematics.
Project: Mathematical Knowledge for Equitable Teaching
PI: Imani Goffney

Corey Knox

University of Arizona

Corey Knox is a second year doctoral student in Science Education/Teaching and Teacher Education at the University of Arizona. Prior to beginning her doctoral work, she received graduate degrees in Community Psychology and Educational Technology. She worked for many years as a researcher/evaluator conducting community-based action research with marginalized groups related to self-determination, support services advocacy, civic involvement and environmental justice. Knox was also an instructor of psychology at the community college and university level. Currently, she is a research associate on the NSF funded Secondary Science Teaching with English Language and Literacy Acquisition (SSTELLA) project. This multi-university project is developing and testing a model of secondary science pre-service teacher education designed to prepare teachers to provide effective science instruction to English language learners (ELLs). Her dissertation research will explore the factors that influence how and whether localized, immediate environmental issues and crises are incorporated into school science and the effects of contextualization (place-based and time sensitive) on student learning, action and community engagement.
Project: Secondary Science Teaching with English Language and Literacy Acquisition (SSTELLA)
PI: Patricia Stoddart

Marta Mielicki

University of Illinois at Chicago

Marta Mielicki is a doctoral student in the Cognitive Psychology program at the University of Illinois at Chicago. After graduating from Boston University with a BS in Mathematics Education, she spent a year teaching high school math in the Boston Public School system and a year teaching English abroad. She returned to school and received an MA in Experimental Psychology from CUNY – Brooklyn College. Her research interests lie at the intersection of cognitive psychology, education, mathematics, and the learning sciences. Specifically, Mielicki is interested in the transition of learners from arithmetic thinking to algebraic thinking, and the factors and individual differences that may influence performance in algebraic problem solving. She is currently assisting Alison Castro Superfine on a project developing and testing a hypothetical learning trajectory for linear functions and equations. Mielicki is also working on a Master's project exploring algebraic problem solving with multiple representations of linear functions.
Project: Improving Formative Assessment Practices: Using Learning Trajectories to Develop Resources That Support Teacher Instructional Practice and Student Learning in CMP2
PI: Alison Castro Superfine

Regan Vidiksis

Education Development Center, Inc.

Regan Vidiksis is a research associate at Education Development Center. She is currently working on an NSF DRK-12-funded project entitled Next Generation Preschool Science, an initiative to develop, iteratively refine, and evaluate an innovative curriculum supplement to promote young children's understanding of science concepts, engagement in science practices, and use of scientific discourse. Her work on this and other early childhood STEM projects involves curriculum and assessment development, the professional development of early childhood educators, and evaluation of the impact of media and technology on early learning. Many of Vidiksis' research contributions are informed by her extensive experience in the dynamic areas of preschool teaching and learning. She formerly worked as both a preschool special educator and as a developmental and education evaluator of young children. Vidiksis holds a BA in English Literature and Rhetoric and an MS in Early Childhood Education and Special Education.

Project: Next Generation Preschool Science: An Innovative Program to Facilitate Young Children's Learning of Science Practices and Concepts

PI: Ximena Dominguez

Jonathan Vitale

University of California, Berkeley

Jonathan Vitale is a postdoctoral researcher working under the direction of Marcia Linn at the Graduate School of Education at the University of California, Berkeley. He currently works to design curriculum, assessments, and research interventions for the NSF-supported GRIDS: Graphing Research on Inquiry with Data in Science project. Vitale has a background as a high school teacher, working in New York City. Following his teaching experience, Vitale completed his PhD in Cognitive Studies at Teachers College, Columbia University. For his graduate research, Vitale primarily focused on methods of combining digital tools, physical manipulatives, and gesture to help children learn mathematics. In his current role with GRIDS, Vitale is applying this experience to graphing in science, where students frequently demonstrate difficulty interpreting, constructing, and critiquing graphs representing authentic data. Vitale hopes to continue working at the intersection of math, science, and technology in future roles as a researcher.

Project: GRIDS: Graphing Research on Inquiry with Data in Science; Continuous Learning and Automated Scoring in Science (CLASS)

PI: Marcia Linn

Douglas Whitaker

University of Florida

Douglas Whitaker is a third year doctoral student in Statistics Education at the University of Florida. Prior to entering the doctoral program, he received Bachelor's degrees in Mathematics and Statistics and a Master's degree in Statistics from the University of Florida. He has worked as a graduate research assistant on the Levels of Conceptual Understanding in Statistics project, developing assessments measuring conceptual (rather than procedural) understanding of statistics in grades 6-12 and

beyond. His research interests include mathematics and statistics teachers' identities as statistics teachers, assessment and quantitative research methods. Whitaker has also taught statistics courses at the high school and college level.

Project: Levels of Conceptual Understanding in Statistics (LOCUS)

PI: Tim Jacobbe