Community for Advancing Discovery Research in Education

2015–2016 CADRE FELLOWS BIOGRAPHIES

Christina Anderson Bosch

University of Massachusetts Amherst

Christina Anderson Bosch is a Ph.D. candidate in Special Education at the University of Massachusetts Amherst. She researches the unique conditions of the education system within the juvenile justice system, especially in relation to the learners with disabilities and science education targeted in the NSF DRK-12 project RAISE. Related research interests include understanding the motivation to learn science and pursue science-related careers among students with emotional and behavioral disabilities; using universal design for learning (UDL) and user experience design (UXD) to develop inquiry science curricula; and teacher professional development, as well as employing art and technology-mediated learning across the content areas. Her ultimate goal is to advance research and development that improves outcomes for marginalized learners. Prior to her doctoral studies, she worked as an instructional designer at CAST, as an academic mentor for at-risk youth in Boston, and as a special education teacher in Washington, D.C.

Project: Reclaiming Access to Inquiry-based Science Education (RAISE) for Incarcerated Students

PI: Michael Krezmien

Tonjua Freeman

University of Central Florida

Tonjua Freeman is a postdoctoral fellow at the University of Central Florida, and is currently working on the DR K12 project "School Structure and Science Success: Organization and Leadership Influences on Student Achievement." One of the main goals of this project is to investigate what school-level factors correlate with students' science performance in order to determine keys to science success that can be implemented by school leaders. She earned her Ph.D. in Science Education at The University of Georgia. Her dissertation examined high school science teachers' ideas about how to help increase science achievement levels for their Black students. She has taught a variety of science courses at the middle school, high school, and university levels. Her research interests include all aspects of improving science achievement for science students of all ages, and she often focuses on cases where the students differ racially, ethnically, or culturally from the teacher.

Project: School Structure and Science Success: Organization and Leadership Influences on Student Achievement (Collaborative Research: Butler)

PI: Malcolm Butler

María González-Howard

Boston College

María González-Howard is a Ph.D. candidate in Curriculum and Instruction at the Lynch School of Education at Boston College. She is a graduate research assistant working with Dr. Katherine L. McNeill on a project that is developing and investigating the effectiveness of multimedia educative curriculum materials for supporting teacher learning about scientific argumentation. Before beginning her doctoral studies, she taught 8th grade science in the Rio Grande Valley of Southern Texas. Influenced by both learning English as a second language and teaching science in a school whose student population was largely categorized as being English language learners (ELLs), she has a particular interest in the intersections of science learning with bilingualism development. Specifically, her research interests lie in identifying and developing language supports for helping emerging bilingual students learn and engage in science practices. She received her B.A. in Physics from Ithaca College and Ed.M. in Teaching English to Speakers of Other Languages from Boston University.

Project: Constructing and Critiquing Arguments in Middle School Science Classrooms: Supporting Teachers with Multimedia Educative Curriculum Materials

PI: Suzanna Loper

Dana Grosser-Clarkson

University of Maryland

Dana Grosser-Clarkson is a fifth-year doctoral student in the Center for Mathematics Education (CfME) in the Department of Teaching and Learning, Policy and Leadership at the University of Maryland (UMD). While at UMD, she has taught all three of the post-baccalaureate secondary mathematics methods courses and also supervised fifteen teacher candidates in year-long field placements. Her research interests include the following: teacher preparation, teacher learning, practice-based teacher education, lesson study, standards-based curricula, algebraic thinking, and classroom discourse. She is currently working on her dissertation, which is a case study of three teacher candidates' learning and enactment of discourse practices over the course of a year-long preparation program. Prior to attending UMD, she taught high school mathematics for six years in Michigan and collegiate mathematics for one year in West Virginia. She completed both her undergraduate and master's degrees in secondary mathematics education at Western Michigan University.

Project: Developing Rich Media-Based Materials for Practice-Based Teacher Education

PI: Daniel Chazan

Candice Guy

University of California, Davis

Candice Guy is a third year doctoral student in Science Education at the University of California, Davis, studying under the advisement of Dr. Cynthia Passmore. Prior to attending UCD, she completed a B.S in Biological Sciences and an M.S. in Ecology and Evolution at Purdue University. While working on her master's degree, she was a science outreach educator providing professional development for teachers and organizing science camps for underrepresented students in STEM. After completing her M.S., she

taught elementary school science in San Francisco. Currently, she is a graduate student researcher on the DR K-12 project "Modeling Scientific Practice in High School Biology: A Next Generation Instructional Resource", working with Dr. Passmore and Dr. Rick Grosberg at UCD, and Julia Gouvea at Tufts University. Utilizing a scientific literacy framework, her dissertation will focus on how teachers' conceptions of model-based reasoning change over time. In particular, she is interested in how teachers' modeling literacy influences their instruction and how it impacts student learning outcomes.

Project: Modeling Scientific Practice in High School Biology: A Next Generation Instructional Resource
PI: Cynthia Passmore

Ayana McCoy

University of Massachusetts Boston

Ayana McCoy is an associate project director in the Center of Science and Mathematics in Context (COSMIC) at the University of Massachusetts Boston. In this role, she manages the DR K-12 project "Supporting Large Scale Change in Science Education: Understanding Professional Development and Adoption Variation Related to Revised Advanced Placement Curriculum (PD-RAP)", which seeks to identify teachers' professional development choices in preparing for a large-scale curriculum reform. Additionally, she contributes to the qualitative research of this mixed-method study. Her research interests also include increasing the numbers of students and faculty of color in STEM disciplines through exploration of their socialization processes at the undergraduate, graduate, and faculty levels. She earned her B.S. in Marine Science from Savannah State University, an M.S. in Fisheries and Aquatic Science from The University of Florida, and a Ph.D. in Higher Education from The University of Mississippi.

Project: Supporting Large Scale Change in Science Education: Understanding Professional Development and Adoption Variation Related to the Revised Advanced Placement Curriculum (PD-RAP)
PI: Arthur Eisenkraft

Jay Plasman

University of California, Santa Barbara

Jay Plasman is a Ph.D. candidate in Education Policy, Leadership, and Methodology at the University of California, Santa Barbara. His current research focuses on the impact of STEM and CTE courses on high school completion. He also studies the role of 21st Century Skills for youth as they transition into adulthood. He is particularly interested in the cross-section of 21st Century Skills exhibited by students who have previously dropped out of school and how those skills may affect decisions to return to school. Prior to beginning his doctoral studies, he received his B.A. in American Studies with a Social Studies teaching credential from Carleton College and received his M.A. in International Service from Roehampton University. His career path includes work at an aquarium, teaching third-eighth grades in the Marshall Islands, a year of AmeriCorps service, work as an epidemiologist, and employment as the director of education at a vocational training program.

Project: Understanding the Role of Contextual Effects in STEM Pursuit and Persistence: A Synthesis Approach
PI: Michael Gottfried

Annick Rougée

University of Michigan

Annick Rougée is a Ph.D. candidate in Mathematics Education at the University of Michigan. Before graduate school, she was a high school Geometry and French teacher for three years in Honolulu, Hawaii. Her experiences as a mathematics teacher and her three years as a field instructor for undergraduate secondary mathematics preservice teachers inform her research interest in how teachers make in-the-moment decisions. In particular, her dissertation seeks to understand how various cognitive and affective factors—beliefs, mathematical knowledge for teaching, and anxiety—might impact how a teacher responds in the moment to a student answer that appears incorrect. This dissertation work is well complemented by her current position as a graduate research assistant on the Leveraging MOSTs project that focuses on developing an understanding of productive use of student thinking in mathematics classrooms.

Project: Leveraging MOSTs: Developing a Theory of Productive Use of Student Mathematical Thinking

PI: Shari Stockero

Lisa Skultety

University of Illinois at Urbana-Champaign

Lisa Skultety is a doctoral student in the Department of Curriculum and Instruction at the University of Illinois at Urbana-Champaign. She is currently a graduate research assistant working with Gloriana González on the DR K-12 project "CAREER: Noticing and Using Students' Prior Knowledge". The project works with geometry teachers from high-needs schools to design and implement problem-based lessons by combining three professional development models: discussing animated vignettes, lesson study, and video club. Her role on the project involves analyzing teacher study group sessions and how the program influences teachers' noticing of students' prior knowledge. Prior to starting her graduate degree, she worked as a middle school and high school math teacher. Her experiences in the classroom have fueled her interest in math teacher professional development.

Project: CAREER: Noticing and Using Students' Prior Knowledge in Problem-Based Instruction

PI: Gloriana González Rivera

Zach Swiecki

University of Wisconsin-Madison

Zach Swiecki is a Learning Sciences Ph.D. student in the Educational Psychology program at the University of Wisconsin-Madison. Before studying educational psychology, he studied mathematics and physics at the University of Alabama-Tuscaloosa. He is currently a member of the Epistemic Games Group working on the design and development of virtual internships. He is interested in the way digital tools affect thinking. In particular, he is interested in the design of virtual learning environments and the development of innovative assessment techniques within those environments. He is currently leading efforts on the design of virtual internships, authoring tools that will allow teachers and curriculum designers to develop their own virtual internships, and automated assessment methods for virtual learning environments.

Project: AutoMentor: Virtual Mentoring and Assessment in Computer Games for STEM Learning; Developing and Testing the Internship-inator, a Virtual Internship in STEM Authorware System

PI: David Shaffer