

## Education Research as a Catalyst for Improving Policy and Practice



### ERC Staff

**Hersh Waxman**

Director

**Jacqueline Stillisano**

Co-Director

**Beverly Alford**

Assistant Director

**Danielle Bairrington Brown**

Coordinator of STEM Education Research

**Kayla Rollins**

Coordinator of Teacher Education Research

**Susana Franco-Fuenmayor**

Research Associate

**Sandra Metoyer**

Research Associate

**Kim Wright**

Research Associate

**Anna Witt Boriack**

Graduate Research Assistant

**Tracy Eppers**

Business Coordinator

**Tracey Hodges**

Graduate Researcher

**Nancy Weber**

Graduate Researcher

**Brenda Taylor**

Research Intern

### Program Area Leaders

**Yolanda Padrón**

Educator Preparation

**Dennie Smith**

Curriculum &amp; Instruction

**Lori Taylor**

School Finance, Resources, &amp; Facilities

### Principal Investigators and Other Researchers

Dottie Carmichael

Nandita Chaudhuri

Timothy Gronberg

Dennis Jansen

Larry Kelly

Miner P. Marchbanks III

### Contact Information

112 Harrington Tower  
College Station, TX 77843-4232  
<http://erc.cehd.tamu.edu>

### STEM Collaborative Established for Teacher Professional Learning

Aggie STEM and the Education Research Center (ERC) in the College of Education and Human Development and the Center for Mathematics and Science Education (CMSE) in the College of Science, together with the Dwight Look College of Engineering, are pleased to announce that they have been awarded a grant for \$765,000 from the Texas Higher Education Coordinating Board to establish the *STEM Collaborative for Teacher Professional Learning*. Robert Capraro, Aggie STEM co-director and Professor of Mathematics Education will be PI for the project. Mary Margaret Capraro, Aggie STEM co-director and Associate Professor of Mathematics Education; Jim Morgan, Aggie STEM director and Associate Professor of Civil Engineering; Tim Scott, CMSE director and Associate Professor of Biology; Jacqueline Stillisano, ERC co-director; and Hersh Waxman, Professor of Teaching, Learning, and Culture and ERC director will be co-PIs. A number of faculty and researchers from the College of Education and Human Development and the College of Science will participate as well.

The *STEM Collaborative for Teacher Professional Learning* has three primary goals: (a) provide high quality STEM professional development for in-service teachers, (b) disseminate best practices for STEM teaching and learning, and (c)

afford research-based tools and support for STEM teacher educators. The common themes connecting all components of the project are the utilization of research-based best practices and the alignment of curricula with the Texas College and Career Standards (CCRS). By increasing the quality of STEM teachers and STEM teacher preparation programs and expanding the knowledge base regarding STEM education, a positive effect on K-12 student achievement and students' interest in STEM-related fields will ensue—ultimately increasing the overall quality of STEM education in Texas.

This project marks a new era of collaboration among the Colleges of Science, Education, and Engineering. "The project leaders individually and collectively have longstanding records of extramural funding and research," said Dr. Robert Capraro. "They have combined their experience and expertise to provide a unified and coordinated approach to addressing solutions for STEM problems currently facing preK-12 education. We are confident that research findings from this project will bring about meaningful change in teaching and learning in STEM disciplines."

For additional information, please contact Robert Capraro at [rcapraro@tamu.edu](mailto:rcapraro@tamu.edu).

### ERC Welcomes New Research Associate

The ERC welcomes Sandra Metoyer to our team as a research associate. Metoyer received a B.S. in Biology from University of Texas Arlington and an M.S. in Geoscience from Texas A&M University. She is currently pursuing her Ph.D. in geography, with an emphasis in education, from the College of Geosciences at Texas A&M University. Prior to joining the ERC, Metoyer was director for the Texas Higher Education Coordinating Board's (THECB) Science Faculty Collaborative and assistant professor in the College of Education at Texas A&M University Corpus Christi. Metoyer has previous professional experience in secondary education, having been a classroom science teacher for five years. Her areas of experience include spatial thinking, STEM education, educational use of geospatial technologies, inquiry-based learning, and team-based learning.



### Congratulations to ERC researchers on the following publication:

Alford, B. L., Rollins, K. B., Stillisano, J. R., & Waxman, H. C. (2013). Observing classroom instruction in schools implementing the International Baccalaureate Programme. *Current Issues in Education*, 16(1).

## Education Research Center Awarded Continuation Grant to Evaluate Large Urban Education Initiative

The Education Research Center (ERC) at Texas A&M University is pleased to announce it has been awarded a grant from United Way of Greater Houston (UWGH) to conduct the Year-2 evaluation of the agency's urban education initiative. This second phase of the evaluation examines a scaled-up version of UWGH's original urban education initiative, which involves over 30 non-profit agency programs that deliver educational services for more than 400,000 children and youth from disadvantaged circumstances in the Houston metropolitan area. Hersh Waxman, Kayla Rollins, and Yolanda Padrón are co-PIs of the project.

The Education Initiative is an outgrowth of the efforts of a task force of Houston community leaders recruited by UWGH to identify various means by which the organization could support and impact the work of the city's school districts. The second phase of the education initiative will include UWGH's three education projects that were implemented during the first year of the initiative (education collaborative involving non-profit agencies and local school districts; *Reading Together* program for children in Grades 1–3; and a parent support program to improve engagement with schools), as well as three additional components: (a) a summer reading program, (b) a community center summer book club, and (c) *Learning Together*—a peer teaching program to be implemented within local schools.

"This Education Initiative by United Way will continue to serve as a long-term vision for the agency as it works toward its goal to help the Houston metropolitan area become a place where high-quality education and high school graduation are the norm and where resources are available to help all students achieve to their highest ability," said Waxman. "Year two of the evaluation will continue to focus on examining the effectiveness of the initiative."

The ERC research team will implement a mixed-methods approach for both formative and summative purposes. The formative evaluation will assist UWGH in improving its efforts throughout the year. The summative evaluation will examine the effectiveness of educational programs and practices. The ERC will continue its work toward developing a longitudinal, data-based system to be used to describe the quality and effectiveness of the educational program on students, teachers, parents, and the community as a whole. Systematic observations, interviews, surveys, focus groups, and quantitative outcome data will be used to examine various program components.

For additional information, please contact Kayla Rollins at [kcbrazil@tamu.edu](mailto:kcbrazil@tamu.edu).

### ERC Dissertation Defenses



Susana Franco-Fuenmayor defended her dissertation, *Examining Dual Language, Bilingual, and ESL Teachers' Knowledge, Professional Development Experiences, and Perceptions about Second Language Programs in Texas*, on March 6, 2013. The purpose of the two research studies was to examine various types of bilingual education programs and teachers' knowledge, professional development experiences, and perceptions about second language programs in Texas. The findings from both studies indicated significant differences in regards to teachers' knowledge and perceptions based on a number of variables examined. Findings also showed that a large number of teachers of English language learners are not receiving adequate training and that bilingual and dual language teachers know more than ESL teachers about research on bilingual programs and second language development. These findings have policy implications because they provide information about the type of knowledge and training that teachers are receiving and most importantly the deficits.

Anna Boriack defended her dissertation, *Teachers' Perceptions of Effective Science, Technology, and Mathematics Professional Development and Changes in Classroom Practices*, on March 5, 2013. The purpose of the study was to examine teachers' perceptions of professional development and changes in classroom practice. A proposed conceptual framework for effective professional development that results in changes in classroom practices was developed, informed by data from two programs that provided professional development to teachers in the areas of technology, mathematics, and science. The findings indicated that effective professional development may play a key role in successful classroom implementation. The results suggested that future professional development activities should be designed around characteristics for effective professional development to increase the likelihood that classroom implementation might occur.



### ERC AERA Presentations

- Boriack, A. W., Alford, B. L., Brown, D. B., Rollins, K. B., & Waxman, H. C. (2013, April). *Examining changes in rural teachers' acquisition of knowledge to implement technology in their classroom*. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, CA.
- Brown, D. B., Waxman, H. C., Borlack, A. W., Taylor, L. L., Stillisano, J. R., & Padrón, Y. N. (2013, April). *School-level learning environment differences between effective/efficient and ineffective/inefficient urban middle schools*. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, CA.
- Franco-Fuenmayor, S. E., & Padrón, Y. N. (2013, April). *Examining dual language and ESL teachers' knowledge and perceptions of dual language and ESL programs*. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, CA.
- Padrón, Y. N. (2013, April). *Principals' knowledge and perceptions of bilingual and second language education programs*. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, CA.
- Rollins, K. B., Alford, B. L., Brown, D. B., Waxman, H. C., & Stillisano, J. R. (2013, April). *Classroom instructional differences in effective and less effective urban middle level schools*. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, CA.
- Stillisano, J. R., Waxman, H. C., Brown, D. B., & Alford, B. L. (2013, April). *Evaluating the effectiveness of college access centers in eight urban Texas high schools*. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, CA.
- Stillisano, J. R., Waxman, H. C., Brown, D. B., Alford, B. L., & Lee, Y. H. (2013, April). *Identifying exemplary practices in college access centers in Texas high schools*. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, CA.
- Waxman, H. C., Evans, R. T., & Kilinc, E. (2013, April). *Development of an observation instrument to measure flourishing learning environments in urban middle school classrooms*. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, CA.