



## **REESE at AERA 2014**

The 2014 Annual Meeting of the American Educational Research Association (AERA) will take place Thursday April 3 through Monday April 7 in Philadelphia. The following schedule contains details of sessions that include presentations on REESE projects and their findings, as well as presentations by NSF of potential interest to REESE PIs. For additional information on AERA 2014, please visit

<http://www.aera.net/EventsMeetings/AnnualMeeting/tabid/10208/Default.aspx>. To add presentations highlighting REESE project work to this list, please contact ARC Research Assistant Iliya Gutin (Gutin-Iliya@norc.org).

### **THURSDAY, April 3**

2:15 – 3:45 pm

#### **SIG-RME Roundtable**

Building/Room: Convention Center, 400 Level, Terrace IV

*Preparation for Teaching Algebra: Results From a National Survey*  
Yukiko Maeda, Sharon Senk, Vivian Alexander, Jeff Craig

### **FRIDAY, April 4**

8:15 – 9:45 am

#### **Academic and Career Pathways in STEM**

Building/Room: Marriott, Fourth Level, 413

*The Association Between Participation in High School Research Experiences and Students' Choice of Undergraduate Major*  
John T. Almarode, Rena F. Subotnik, Edward Crowe, Robert H. Tai

#### **Impact of Instructional Environments on Learning**

Building/Room: Marriott, Fourth Level, Franklin 12

*Using a Synthetic Peer to Investigate the Effect of Competitive Learning by Teaching in Mathematics*  
Noboru Matsuda, Gabriel J. Stylianides, William W. Cohen, Kenneth R. Koedinger

## **Participation of Marginalized Students in STEM**

Building/Room: Convention Center, 400 Level, Terrace III

*Being a Buoyant Believer: A Key to Black and Latino Collegians' Success in STEM*  
Terrell L. Strayhorn, Leroy L. Long, Joseph A. Kitchen

10:35 am – 12:05 pm

## **Division D Section 1 Poster Session 4**

Building/Room: Convention Center, 200 Level, Hall E

*Predictors of Omitted Responses on the 2009 NAEP Mathematics Assessment*  
Nathaniel J.S. Brown, Shenghai Dai, Dubravka Svetina

## **Innovative Practices for Assessment in Computer-Based Learning Environments**

Building/Room: Marriott, Fourth Level, 414

*Assessing Learning With MetaTutor, a Multiagent Hypermedia Learning Environment*  
Jason M. Harley, Francois Bouchet, Niki Papaioannou, Cassia Carter, Gregory Trevors,  
Reza F. Benagh, Roger Azevedo, Ronald Landis

12:25 – 1:55 pm

## **Motivational Processes Related to Goals, Emotions, Interest, and Self-Regulation**

Building/Room: Convention Center, 200 Level, Hall E

*The Relationship Between Interest and Instructional Strategy*  
Martina Nieswandt, Elizabeth McEneaney, Renee H. Affolter

2:15 – 3:45 pm

## **Factors Influencing Female Participation in STEM Fields: New Insights from Longitudinal Data**

Building/Room: Convention Center, 100 Level, 108A

*Gender Segregation Across the Sciences*  
Jacquelynne Eccles, Ming-Te Wang, Yi-Miau Tsai, Meeta Banerjee

## **Understanding Variation in Teacher Education Programs: Features That Impact Teacher Learning**

Building/Room: Convention Center, 100 Level, 114

*Variation in Teacher Education Opportunities to Learn and Mathematics Knowledge for Teaching*  
Maria T. Tatto

**Learning Sciences SIG Poster Session**

Building/Room: Convention Center, 200 Level, Hall E

*Microgenetic Learning Analytics*  
Florence R. Sullivan

**Pathways to College from Urban High Schools**

Building/Room: Convention Center, 400 Level, Terrace IV

*Impact of School Reform Policies on College Linking Strategies, Social Capital, and Access to College*  
Sarah Ohle, Margaret Eisenhart

**Mathematical Cognition: Strategies, Working Memory, and Representations**

Building/Room: Marriott, Fourth Level, 413

*The Role of Feedback Type and Working Memory Capacity During Problem Solving*  
Emily R. Fye, Marci S. DeCaro, Bethany Rittle-Johnson

**The Robert L. Linn Distinguished Address; Proficiency in Science: Assessment Challenges and Opportunities**

Building/Room: Marriott, Fifth Level, Grand Ballroom G

Edward H. Haertel, James W. Pellegrino, Richard A. Duschl, Finbarr C. Sloane

**Beyond Journal Impact Factor: The Sociology of Science and the Evaluation of Interdisciplinary Education Research Program at the National Science Foundation**

Building/Room: Convention Center, 200 Level, 201B

Chair: Gregg Solomon

*Who Influences Whom? The Effects of Disciplinary Background and Affiliation on the Diffusion of Knowledge in the Research and Evaluation on Education in Science and Engineering Program*

Alan Porter, David Schoeneck, Gregg Solomon

*Productivity, Impact, and Research Design in the Evaluation of Education Research at the National Science Foundation*

Carolina Milesi, Kevin L. Brown, Barbara Schneider

*The Science of Team Science: Project Personnel and the Development of Human and Social Capital in Multidisciplinary Research*

Sarah-Kay McDonald, Heena Lakhani

Discussant: Joan Ferrini-Mundy

4:05 – 5:35 pm

**Common Core State Standards for Mathematics and Mathematics Teacher Education Programs: Current and Future Directions**

Building/Room: Marriott, Fourth Level, Franklin 3

*Reported Changes in Secondary Mathematics Teacher Education Programs due to the Common Core State Standards*

Jeff Craig, Jia He, Sharon Senk, Yukiko Maeda, Vivian Alexander

**Comparing Studies of Inclusive STEM High Schools: Three Approaches With Different Findings and Policy Implications**

Building/Room: Convention Center, 100 Level, 115C

*Inclusive STEM High Schools in Practice: Outcomes and Opportunity Structures for Low-Income Underrepresented Minorities*

Lois Weis, Kristin Cipollone, Amy Elizabeth Stich

*What Is a STEM School? Opportunities in Inclusive STEM and Traditional High Schools in Denver*

Carrie A. Bemis, Margaret Eisenhart

**Conceptualizing Formative Assessment and Developing Formative Practice**

Building/Room: Convention Center, Terrace Level, Terrace III

*Contrasting Assessment Tools: Teachers' current assessment practices as a resource for learning about formative assessment*

Sarah C. Heredia

**Building the STEM Workforce Begins Early: A Focus on STEM Learning Ages 3-8**

Building/Room: Convention Center, 200 Level, 201A

Janice M. Earle, Marina U. Bers, Kimberly Brenneman, Richard Lehrer

4:05 – 6:05 pm

**Current Approaches to Interest Measurement**

Building/Room: Convention Center, 100 Level, 121C

*The Construct of Interest Within the Expectancy-Value Framework*  
Alanna Epstein, Yi-Miau Tsai, Jacquelynne Eccles

*Using Interest as an Additional Precondition for Achieving Flow*  
Walter Cook, Barbara Schneider

## **SATURDAY, April 5**

8:15 – 10:15 am

### **Modeling for Understanding and Reasoning**

Building/Room: Marriott, Fourth Level, 413

*Developing Representational Competence in Chemistry With Concrete and Virtual Models*

Andrew T. Stull, Mary Hegarty

### **Does Teacher Education Need Research? Does Research Need Teacher Education?**

Building/Room: Convention Center, 100 Level, 102A

Maria Teresa Tatto

10:35 am – 12:05 pm

### **AERA Distinguished Contributions to Research in Education Award (2013) Address: Alan Schoenfeld**

Building/Room: Convention Center, 200 Level, 201C

*What Makes for Powerful Classrooms, and How Can We Support Teachers in Creating Them?*

Alan Schoenfeld

### **Gender and Educational and Occupational Choices: International Perspectives**

Building/Room: Convention Center, 200 Level, 204A

*Gender and STEM in High School: The Role of Mathematics Values, Interest, and Test Scores in STEM Career Preferences*

Janet Hyde, Helen Watt, Jennifer Petersen, Zoe Morris, Judith Harackiewicz

### **Pedagogical Content Knowledge (PCK): Considering Models, Methods, and Recommendations from the PCK Summit**

Building/Room: Marriott, Fifth Level, Grand Ballroom G

*Pedagogical Content Knowledge Summit: A New Way to Visit an Old Construct*  
Janet Carlson, Julie Gess-Newsome

*Pedagogical Content Knowledge in Biology Teachers Resulting from Professional Development and Educative Curriculum*

Janet Carlson, Julie Gess-Newsome, April Gardner

**Institute of Education Sciences (IES): Promises and Challenges**

Building/Room: Convention Center, 100 Level, 108A

Michael S. McPherson, John Q. Easton, Susanna Loeb, David J. Chard, Joan Ferrini-Mundy

**Evaluating and Improving Concept Inventories as Assessment Resources in STEM Teaching and Learning**

Building/Room: Convention Center, 100 Level, 115B

James W. Pellegrino, Finbarr C. Sloane

2:45 – 4:15 pm

**Common Ground on Diversity: Research on Inclusiveness in Professions Education**

Building/Room: Convention Center, 100 Level, 103C

*Broadening the Pipeline Through the Study of Pathways and Persistence: Findings from the Second Year*

Leonard B. Bliss, Fabriana Bornmann, Lorraine Fleming, Dawin G. Williams, Kalynda C. Smith, Inez Moore

**Posters in Mathematics Teaching and Learning**

Building/Room: Convention Center, 200 Level, Hall E

*Promoting Mathematical Problem Solving and Explanation at Home: The Effects of Extended Homework Use*

Abbey M. Loehr, Bethany Rittle-Johnson, Aditi Rajendran

**New Ways to Evaluate Mathematics and Science Education**

Building/Room: Convention Center, 200 Level, 202A

Janice M. Earle, Edith Gummer, Leigh Abts, Larry V. Hedges, Daniel L. Schwartz, Peter Arcidiacono

## **SUNDAY, April 6**

8:15 – 9:45 am

### **Different Perspectives on the Role of Explanation and Exploration in Learning**

Building/Room: Marriott, Fourth Level, Franklin 6

*Learning From Explanation: The Timing and Source of Explanations for Learning Early Algebra*

Emily R. Fye, Bethany Rittle-Johnson, Abbey M. Loehr, Michael R. Miller

*Why Does Explaining “Why” Help Learning? A Subsumptive Constraints Account*

Joseph J. Williams, Tania Lombrozo

10:35 am – 12:05 pm

### **Productive Talk and Participation in Disciplinary Practices: Perspectives from Mathematics and Science Education**

Building/Room: Marriott, Fourth Level, Franklin 7

*Supporting Student Justification in Middle School Classrooms: Teachers’ Work to Create Context for Justification*

Megan Staples

### **STEM Habits for Success: Factors That Contribute Toward Persistence**

Building/Room: Convention Center, 100 Level, 108B

*Effects of Sense of Belonging and Deep Learning on Practical Competence Among Minorities in STEM*

Terrell L. Strayhorn, Joseph A. Kitchen, Michael Steven Williams, Leroy Long

### **Reinvisioning Innovation and the NSF Role in Advancing Education Research**

Building/Room: Convention Center, 100 Level, 120A

*Promoting Innovation and Building Research Foundations at the National Science Foundation: Priorities and Perspectives*

P. Karen Murphy, Joan Ferrini-Mundy, Robert Boruch, Deborah L. Ball

12:25 – 1:55 pm

**Research on Mathematics Explanations and Discourse**

Building/Room: Marriott, Fourth Level, 413

*Enhancing the Quality of Children's Explanations to Promote Patterning Knowledge*

Emily R. Fye, Bethany Rittle-Johnson, Abbey M. Loehr, Michael R. Miller

*Learning From Explanation: Does it Matter Who Provides Them?*

Abbey M. Loehr, Emily R. Fye, Michael R. Miller, Bethany Rittle-Johnson

**Poster Session 13**

Building/Room: Convention Center, 200 Level, Hall E

*Positioning Teachers as Codesigners in Design-Based Implementation Research:*

*Implications for Teacher Engagement*

Gavin Tierney, Susan B. Nolen

**Achieving Excellence in STEM Learning and Workforce Development: Goals and Roles of NSF's Foundational Research Investments in STEM Education**

Building/Room: Convention Center, 200 Level, 201C

Sarah-Kay McDonald, Margaret A. Eisenhart, Lois Weis, Susan M. Fischer, Nilanjana

Dasgupta, Bruce Weinberg, Finbarr C. Sloane

2:15 – 3:45 pm

**Pathways to STEM for Low-Income Underrepresented Minorities: High School Opportunity Structures, "Figured Worlds" of STEM, Postsecondary Matriculations, and Choice of Major in Two Cities Differentially Positioned in the Global Economy**

Building/Room: Convention Center, 100 Level, 120B

*Postsecondary Matriculation Patterns in High Schools in Buffalo*

Lois Weis, Amy Elizabeth Stich, Kristin Cipollone, Andrea Nikischer

**English Learners in Science and Math Classrooms: Curriculum, Language Practices, and Learner Perceptions**

Building/Room: Convention Center, 100 Level, 104B

*Examining Math and Science Self-Efficacy and Anxiety in Fifth-Grade English Learners*

Alison E. Baroody, Eileen G. Merritt, Sara E. Rimm-Kaufman



**Further Exploration of the Classroom Video Analysis Approach for Measuring Usable Teaching Knowledge in Mathematics**

Building/Room: Convention Center, 100 Level, 109A

*The Effects of Teacher Preparation on Teaching Knowledge and Practice*  
James Hiebert, Dawn Berk, and Anne Morris

**Poster Session 14**

Building/Room: Convention Center, 200 Level, Hall E

*Charting the Impact of Federal Spending for Education Research: The Case of the National Science Foundation's Research and Evaluation on Education in Science and Engineering Program*  
Carolina Milesi, Eric Hedberg, Kevin L. Brown, Barbara Schneider

**Federal Funding Opportunities for Education Research: Institute of Education Sciences, National Science Foundation, and National Institutes of Health**

Building/Room: Convention Center, 200 Level, 202A

Paula R. Skedsvold, Elizabeth R. Albro, Janice M. Earle, James A. Griffin

**MONDAY, April 7**

8:15 – 9:45 am

**Promoting Epistemic Practices in Science Classes**

Building/Room: Convention Center, 100 Level, 109A

*Epistemic Practices of Coordinating Conflicting Data With Competing Theories*  
Clark A. Chinn, Ron Rinehart

12:25 – 1:55 pm

**STEM: Educational Opportunities and Outcomes**

Building/Room: Convention Center, Terrace Level, Terrace IV

*The Influence of Applied STEM Coursework in High School on Choosing a STEM Major in College*  
Michael A. Gottfried, Robert Bozick

2:15 – 3:45 pm

**Understanding Students' Racialized Experiences In and Through Higher Education**

Building/Room: Convention Center, Terrace Level, Terrace IV

*Racial Symbolism on Campus: The Experiences of Black Male Collegians at  
Predominantly White Institutions*

Royel Johnson, Terrell L. Strayhorn

ARC is a National Science Foundation funded initiative that supports education researchers in science, technology, engineering, and mathematics (STEM). Headquartered at NORC at the University of Chicago's Hyde Park campus offices, ARC is committed to capitalizing on and sharing the insights, methods, and results that help to build an *arc of knowledge* across STEM fields.

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