



REESE/REAL at AERA 2015

The 2015 Annual Meeting of the American Educational Research Association (AERA) will take place Thursday April 16 through Monday April 20 in Chicago. The following schedule contains details of sessions that include presentations on REESE projects and their findings, as well as presentations by NSF and other federal agencies that might be of potential interest to REESE/REAL PIs. For additional information on AERA 2015, 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 at arc-info@norc.org.

THURSDAY, April 16

10:00 – 12:00 pm

Division H 2015 Research Roundtable Forum, Theme: Assessment

Building/Room: Marriott, Fourth Level, Clark

Examining Students' Understanding of and Change of Learning on Natural Selection using a Learning Progression

Ruhan Circi Kizil, Erin Furtak,

12:00 – 1:30 pm

Contemporary Models and Their Applications: A Poster Session

Building/Room: Sheraton, Fourth Level, Chicago VI&VII

The Challenges of Measuring Misconceptions in Middle Grades Statistics

Jessica Masters, Lisa Famularo

2:15 – 3:45 pm

Roundtable Session 5: Instructional Technology Application in STEM Contexts

Building/Room: Hyatt, East Tower - Purple Level, Riverside West

Synthesizing Results From Empirical Research on Computer-Based Scaffolding in STEM Education: A Meta-Analysis

Brian R. Belland, Andrew Walker, Nam Ju Kim, Mason Lefler

How People Learn II: The Science and Practice of Learning: Symposium and Discussion Forum on a Forthcoming National Research Council Report

Building/Room: Hyatt, West Tower - Gold Level, Regency D

Heidi Schweingruber, Sujeeta Bhatt, Barbara Rogoff, James Pellegrino, Penelope Peterson

Chair: Robert Hauser

Discussants: Carol Lee, William Penuel

FRIDAY, April 17

8:15 – 9:45 am

Transforming College Mathematics Instruction: Opportunities and Challenges at the Classroom and Institutional Levels

Marriott, Fifth Level, Los Angeles/Miami

Features of Successful Calculus Programs at Five Research Universities

Chris Rasmussen

Characteristics of Successful Programs in College Calculus at Four Two-Year Colleges

Vilma Mesa

Chair: Chris Rasmussen

Pathways to STEM Among High-Achieving Low-Income High School Students of Color in Two Cities

Building/Room: Marriott, Fourth Level, Belmont

Pathways to STEM Among Low-Income Students of Color in Four Denver High Schools

Margaret Eisenhart, Carrie Allen

Pathways to STEM Among Low-Income Students of Color in Four Buffalo High Schools

Kristin Cipollone, Amy Elizabeth Stich, Lois Weis

Postsecondary Matriculation Patterns in Denver High Schools

Margaret Eisenhart, Sarah Ohle

Postsecondary Matriculation Patterns in High Schools in Buffalo

Rachel Fix Dominguez, Andrea Nikischer, Lois Weis

Chair: Margaret Eisenhart

Teaching and Learning With Technology

Building/Room: Marriott, Fourth Level, Sheffield

Microgenetic Learning Analytics: A Computational Approach to Research on Student Learning

Florence Sullivan, Richards Adrion, Kevin Keith

10:35 am – 12:05 pm

Curriculum Studies and Materials in Mathematics

Building/Room: Marriott, Sixth Level, Lincolnshire

Longitudinally Investigating the Effect of Mathematics Curriculum on Students' Learning: Application of Growth Mixture Modeling

Jinfa Cai, John Moyer, Ning Wang, Dimiter M. Dimitrov

Explorations in Mathematics in the Elementary Grades

Building/Room: Sheraton, Second Level, Superior B

Pilot Test of a Comprehensive Intervention to Improve Children's Understanding of Math Equivalence

Caroline Byrd, Nicole McNeil, Cristina Carrazza, Julia Matthews, Heather Brletic-Shipley, Erin Celeste

Roundtable Session 9: Methodological Considerations in Ethnographic Practice

Building/Room: Hyatt, East Tower - Purple Level, Riverside West

Urban Education and the Strengths of Longitudinal Ethnography: Evidence From the Field

Kristin Cipollone, Amy Stich, Lois Weis

Poster Session 4: Inquiry and Problem Solving: Tools, Scaffolds, and Strategies

Building/Room: Sheraton, Fourth Level, Chicago VI&VII

Evaluating a Scaffolding Design to Automatically Support Students' Data Interpretation Within a Simulation-Based Inquiry Environment

Raha Moussavi, Michael Kennedy, Michael Sao Pedro, Janice Gobert

Effects of Framing Complex System Problems With Less Complex Problems on Students' Inquiry Skills

Maura Ferrarini, Ozge Yasar, Ermal Toto, Janice Gobert

Belonging and Engagement in STEM Education

Building/Room: Sheraton, Ballroom Level, Sheraton V

Belonging and Academic Engagement

Diane Jones, Denise Wilson, Rebecca Bates, Tamara Floyd-Smith, Melani Plett, Nanette Veilleux

The Role of Institutional Differences in Belonging and Engagement: Quantitative Studies

Denise Wilson, Diane Jones, Rebecca Bates, Nanette Veilleux , Tamara Floyd-Smith, Melani Plett

The Role of Institutional Differences in Belonging and Engagement: Qualitative Studies

Denise Wilson, Cheryl Allendoerfer, Rebecca Bates, Tamara Floyd-Smith, Melani Plett, Nanette Veilleux

The Role of Extracurricular Activities in Belonging and Engagement

Cheryl Allendoerfer, Denise Wilson, Diane Jones, Rebecca Bates, Tamara Floyd-Smith, Melani Plett, Nanette Veilleux

The Role of Faculty Support in Belonging and Engagement: Quantitative Studies

Diane Jones, Fraser Bocell, Denise Wilson, Rebecca Bates, Tamara Floyd-Smith, Melani Plett, Nanette Veilleux

The Role of Faculty Support in Belonging and Engagement: Qualitative Studies

Caitlin Wasilewski, Cheryl Allendoerfer, Denise Wilson, Rebecca Bates, Tamara Floyd-Smith, Melani Plett, Nanette Veilleux

Chair: Ruth A. Streveler

2:15 – 3:45 pm

Roundtable Session 11: The Learning at Hand: Gesture Production in Virtual Pedagogical Agents

Building/Room: Hyatt, East Tower - Purple Level, Riverside East

Moving Targets: Representing and Simulating Choreographies of Multimodal

Pedagogical Tactics for Virtual Agent Mathematics Tutors

Virginia Flood, Alyse Schneider, Dor Abrahamson

Learning and Engagement Through Gaming

Building/Room: Sheraton, Second Level, Superior A

Projective Reflection Through Games

Aroutis Foster, Mamta Shah, Anne Catherine Feldman

Effect Sizes, Sample Sizes, and Power

Building/Room: Marriott, Sixth Level, Purdue/Wisconsin

A Hierarchical Framework for Effect Sizes
Ariel Aloe, Shannon Shisler

Teaching and Learning Mathematics With Technology

Building/Room: Marriott, Fourth Level, Sheffield

Studying the Effect of Guided Learning by Teaching in Learning Algebra Equations
Noboru Matsuda, Gabriel Stylianides, Kenneth Koedinger

4:05 – 5:35 pm

Research in Mathematics Education SIG Poster Session

Building/Room: Sheraton, Fourth Level, Chicago VI&VII

Analyzing Coherence of Teachers' Knowledge Relating Fractions and Ratios
Travis Weiland, Gal Nagar, James Burke, Chandra Orrill

Epistemic Network Analysis as a Tool for Exploring Teachers' Understanding of Similarity and Proportion
Timothy Marum, Chandra Orrill, James Burke

Teachers' Understanding of Ratios and Their Connections to Fractions
Gal Nagar, Travis Weiland, Chandra Orrill, James Burke

Transitioning from Teacher Preparation into Teaching: Graduates' Professional Visions for Teaching Elementary School Mathematics
Amanda Jansen, Heather Gallivan, Emily Miller

Roundtable Session 13: Teacher Preparation in Mathematics Education

Building/Room: Hyatt, East Tower - Purple Level, Riverside East

Learn to Teach Algebra: Opportunities in Secondary Teacher Education
Andrew Hoffman, Jia He, Alexia Mintos, Jill Newton, Elizabeth Kersey, Jenna Beckley, Yukiko Maeda

Learning Sciences: STEM Learning With and Through Technological Tools

Building/Room: Marriott, Fourth Level, Addison

Leveling Algebra Transparency: Giant Steps Toward a New Approach to Learning?
Dor Abrahamson, Kiera NP Chase

4:05 – 6:05 pm

Teachers' Use of Learning Progressions for Formative Assessment: Implications for Professional Development and Further Research

Building/Room: Marriott, Fifth Level, Scottsdale

Supporting Teachers' Formative Assessment Practices With Learning Progressions: Results of a Longitudinal Study

Erin Marie Furtak, Ruhan Circi Kizil

Fractions Learning: One Subject, Multiple Perspectives

Building/Room: Marriott, Fifth Level, Chicago ABC

Chair: Percival Matthews

A Neurocognitive Model of Fractions Learning

Mark Lewis, Edward Hubbard

An Alternative Route to Fractions Knowledge

Percival Matthews

SATURDAY, April 18

10:35 am – 12:05 pm

Immigration

Building/Room: Swissotel, Event Centre Second Level, Montreux 3

Recruitment and Data Collection With Latino Immigrant Mothers in Education Research

Eloy Ortiz, Yethzell Díaz, Jill Denner, Seow Ling Ong

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

Building/Room: Hyatt, West Tower - Gold Level, Toronto

Allen Ruby (IES), James Griffin (NICHD), Margaret Hjalmarson (George Mason)

2:45 – 4:15 pm

New Perspectives for Serious Gaming: Games That Integrate Making and Playing for Learning

Building/Room: Marriott, Seventh Level, Grand Salon I

Programming Games for Learning: A Research Synthesis

Shannon Campe, Jill Denner

Interdisciplinary and Integrated STEM Education: Research, Practices, and Perspectives
Building/Room: Sheraton, Ballroom Level, Sheraton IV

Toward an Analytic Framework of Interdisciplinary Reasoning and Communication in Science
Ji Shen, Shannon Sung, Dongmei Zhang

Poster Session 10: Motivation in Social and Cultural Contexts
Building/Room: Sheraton, Fourth Level, Chicago VI&VII

Becoming Advanced Placement: Negotiating Identity in an Evolving Context
Alexandra Goodell

6:30 – 8:00 pm

Problem-Based Education SIG Business Meeting
Building/Room: Sheraton, Second Level, Michigan A

The Quality of Arguments in Problem-based and Inquiry Learning Environments
Clark Chinn

SUNDAY, April 19

12:25 – 1:55 pm

Building Research Foundations at the National Science Foundation
Building/Room: Hyatt, East Tower - Gold Level, Columbus CD

Building Research Foundations at the National Science Foundation
Joan Ferrini-Mundy

Symposium on National Science Foundation Workforce Issues
Building/Room: Marriott, Fifth Level, Denver/Houston

Chair: Gregory Camilli

Presenters: Hal Salzman, Yong Zhao, Richard Ingersoll

Discussants: Gregory Camilli, Larry Suter, Lilian Wu

NCME Coordinated Session, Missing Data in Large-Scale Assessments

Building/Room: Camelot, 3rd Floor, Electronic Board Session, Paper Session

Predicting skipping behavior in NAEP mathematics assessment: a multi-level and multi-group confirmatory factor analysis approach

Shenghai Dai

Poster Session 13: Examining Teaching Practices Across the Content Areas

Building/Room: Sheraton, Fourth Level, Chicago VI&VII

Of Abstract Algebra for Preservice Teachers: Gathering Perspectives

Andrew Hoffman

Emerging Perspectives on Understanding Learning Behaviors in Digital Environments

Building/Room: Marriott, Fourth Level, Addison

Toward Integrating Data Mining and Knowledge Engineering for Better Student Models

Ryan Baker, Luc Paquette, Michael Sao Pedro, Janice Gobert

2:15 – 3:45 pm

Mathematics Teacher Education: Results and Implications of an International Study

Building/Room: Marriott, Third Level, Kane/McHenry

Chair: Mark Reckase

Teacher Education and Mathematics Knowledge for Teaching

Maria Teresa Tatto

Exploring Mathematical Pedagogical Content Knowledge: An International Study of Future Teachers

Anthony Albano, Traci Kutaka, Wendy Smith, Chansuk Kang

Differences in Beliefs and Knowledge for Teaching Mathematics: An International Study of Future Teachers

Traci Kutaka, Wendy Smith, Anthony Albano, Chansuk Kang

Opportunities to Learn During Student Teaching: International Investigation of Secondary Prospective Teachers' Experiences

Jan Sunderlik

Exploring U.S. Prospective Lower Secondary Teachers' Mathematical Content Knowledge

Shawn Broderick

Discussant: Edward Silver

4:05 – 5:35 pm

Modes, Meanings, and Multimodality

Building/Room: Sheraton, Second Level, Colorado

Refining Mathematical Meanings Through Multimodal Revoicing Interactions: The Case of "Faster"

Virginia Flood, Dor Abrahamson

The State of the Art in Automated Scoring of Science Inquiry Tasks

Building/Room: Marriott, Fifth Level, Chicago FGH

Automatic Assessment of Students' Data Analysis Skills Across Physical Science Simulations

Michael Sao Pedro, Raha Moussavi, Janice Gobert, Ermal Toto, Luc Paquette

6:15 – 7:45 pm

Division D In-Progress Research Gala: An Invited Poster Session

Building/Room: Sheraton, Fourth Level, Chicago VI&VII

Synthesizing Meta-analysis Results from Regression Models of Different Sizes

Christopher Thompson, Betsy Becker

MONDAY, April 20

8:15 – 9:45 am

Science Education in Early Childhood

Building/Room: Sheraton, Ballroom Level, Sheraton II

Evolving Minds: Young Children Learning Natural Selection From Explanation-Rich Picture Storybooks

Deborah Kelemen, Natalie Emmons

12:25 – 1:55 pm

Toward a Fair Evaluation of Teachers: Methodological Challenges in a Cross-National Study of Mathematics Teachers

Building/Room: Marriott, Sixth Level, Purdue/Wisconsin

Chair: Maria Teresa Tatto

The Development and Assessment of Mathematical Teaching Expertise: Educational and Scientific Importance of the Study

Maria Teresa Tatto, Mark Reckase, Michael Rodriguez, Kiril Bankov, Wendy Smith

Novice Teachers' Mathematical Knowledge for Teaching: Conceptualizing, Measuring, and Reporting on Pilot Results

Kiril Bankov, Michael Rodriguez

Conceptualizing and Measuring Opportunities to Learn and the Contexts of Teaching

Michael Rodriguez

Novice Mathematics Teachers' Enacted Practices: Developing an Observation Protocol to Use in International Settings

Wendy Smith, Maria Teresa Tatto

Conceptualizing and Measuring Teaching Quality and Effectiveness

Mark Reckase, Maria Teresa Tatto, Michael Rodriguez

Discussants: Robert Floden, Paul Conway

2:15 – 3:45 pm

Motivation and Learning in Groups

Building/Room: Sheraton, Ballroom Level, Sheraton II

Affective, Cognitive, and Social Dynamics in Collaborative Small Groups during Science Inquiry-Based Activities

Martina Nieswandt, Elizabeth McEneaney, Renee Affolter

Social-Mediated Learning, Intelligent Tutoring, and Knowledge-Building Discourse

Building/Room: Hyatt, West Tower - Bronze Level, Buckingham

Metadiscourse on Collective Knowledge Progress to Inform Sustained Knowledge-Building Discourse

Jianwei Zhang, Dan Tao, Yanqing Sun, Mei-Hwa Chen, Ben Peebles, Sarah Naqvi

Factors Affecting Diverse Students in STEM

Building/Room: Swissotel, Event Centre First Level, Zurich E

Are College Women Less Engaged in Computer Science Classrooms Than Men? Results of a Smartphone Experience Sampling Method Study

Carolina Milesi, Barbara Schneider, Kevin Brown, Lara Perez-Felkner, Iliya Gutin

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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