



REESE at AERA 2010

The 2010 Annual Meeting of the American Educational Research Association (AERA) will take place Friday April 30 through Tuesday May 4 in Denver, Colorado. The following schedule contains details of 2010 AERA 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 the AERA 2010, please visit <http://www.aera.net/Default.aspx?id=8358>; to add presentations highlighting REESE project work to this list, please contact ARC Associate Director Kevin Brown (brown-kevin@norc.org).

Friday, April 30

Noon – 2:00pm

College Student Learning in STEM

BUILDING/ROOM: Colorado Convention Center / Room 105

Understanding STEM Persistence: Memorizing, Digesting, and Personal Epistemology
Jennifer Cromley

A Closer Look at Undergraduate Physics Course Innovations: A Meta-Analysis of Their Impact on Student Learning
Heidi Iverson, Maria Araceli Ruiz-Primo, Derek C. Briggs, Robert M. Talbot, Lorrie A. Shepard

Noon – 1:30pm

The Complex Ecology of Teacher Education in Germany, Taiwan, and the United States

BUILDING/ROOM: Colorado Convention Center / Room 402

Methodological Challenges of Measuring General Pedagogy
Richard T. Houang, William H. Schmidt

2:15-3:45pm

Issues in the Use of Research

BUILDING/ROOM: Sheraton / Grand Ballroom Section 2

Racial and Ethnic Categorization in Large-Scale Secondary Data Analysis: How Decisions Can Affect Research Conclusions
Wei-Bing Chen, David Grissmer, Anne Gregory

Keeping Underrepresented Scientists in the STEM Pipeline: Interdisciplinary Perspectives on the Pathways of Minorities and Women Into Postsecondary Science Careers

BUILDING/ROOM: Colorado Convention Center / Room 712

Understanding Academic Performance in Organic Chemistry: An Investigation Examining Underrepresented Groups

Kiruthiga Nandagopal, Richard J. Shavelson, Evan Szu, Enrique Lopez

Integrated Education and Science Outcomes

Roslyn Arlin Michelson

On-Track for STEM Careers: Access to Rigorous and Relevant STEM Coursework in Florida's High Schools

Kathryn M. Borman, Reginald Lee, Ashley Spalding, Becky Smerdon, and Will Tyson

Cultivating College Dreams: Institutional Culture and Social Pathways to Educational Attainment

Lara Perez-Felkner

Chair: Janice Earle

Discussant: Roosevelt Johnson

Promoting Reasoning: A Microgenetic Study of Middle School Students Learning Through Model-Based Inquiry

BUILDING/ROOM: Colorado Convention Center / Room 203

Activity Structures That Make Student Reasoning Visible

William J. Pluta

Teacher Practices That Support and Impede Growth in Reasoning

Clark A. Chinn

Scaffolding Effective Model-Based Reasoning

Luke Andrew Buckland

Teacher Practices That Encourage Motivation and Cognitive Engagement for Modeling Tasks

Toni Kempler Rogat, Shelly A. Witham

4:05 - 5:35pm

College Faculty Work in Science, Technology, Engineering, and Math

BUILDING/ROOM: Colorado Convention Center / Room 105

Improving Undergraduate Science Instruction: Results of Multidisciplinary Synthesis of the Literature

Andrea L. Beach, Charles R. Henderson, Noah Finkelstein, Yuhfen Lin

Practice Knowledge Versus Literature-Based Knowledge of STEM Education Change Agents: Results of a National Delphi Process

Andrea L. Beach, Charles R. Henderson

Studies of Student Learning in Mathematics

BUILDING/ROOM: Colorado Convention Center / Room 109, 111, 113

Extension From Whole Numbers to Fractions

Raven McCrory

Documenting and Measuring Opportunities to Learn Mathematics

BUILDING/ROOM: Colorado Convention Center / Room 108

*Documenting and Measuring Opportunities to Learn in the Intended Curriculum of Mathematics
Teacher Education*

Maria Teresa Tatto, Kiril Bankov

Saturday, May 1

8:15 - 9:45am

Counseling Policies, Practices, and Processes

BUILDING/ROOM: Colorado Convention Center / Korbel Ballroom 3

Psychological Education for Women in Science and Engineering: Conceptual Underpinnings for a New Online Program

8:15 - 10:15am

Graduate Student Learning and Development

BUILDING/ROOM: Colorado Convention Center / Room 107

The [Mis]perceptions of Graduate Student Research Skills
Hurst, M., & Feldon, D. F.

Rethinking Identity: Situated Perspectives

BUILDING/ROOM: Colorado Convention Center / Korbel Ballroom

Children's Views of Child Involvement in Family Household Work in Two Communities Near Guadalajara, Mexico
Andrew Dee Coppens, Lucia Alcalá, Rebeca Mejía Arauz, Barbara Rogoff

Studying Motivation and Learning Online: Prospects and Challenge

BUILDING/ROOM: Colorado Convention Center / Room 104

Initial Orientations, Interest, and Online Learning: What Students Do Is as Important as Why
Carol Sansone

10:35 - 12:35pm

Motivation in Education

BUILDING/ROOM: Colorado Convention Center/Korbel Ballroom 3

Students' Changing Views of Their Coursework Over Time.
Stump, G., Husman, J., & Hilpert, J.

12:25 - 1:55pm

Formative and Summative Classroom Assessments: Lessons Learned

BUILDING/ROOM: Sheraton / Grand Ballroom Section 2

Making Sense of Complexity: Assessing Classroom Instructional Environments Using Teacher Surveys
Jimmy Sebastian, Elaine Allensworth

1:00 - 5:00pm

Writing a Competitive Proposal for the NSF's Division of Research on Learning in Formal and Informal Settings: Strategies and Tips for Novices and Seasoned Researchers

BUILDING/ROOM: Hyatt Regency / Centennial Ballroom F

Director: Janice H. Earle (EHR, National Science Foundation)

Director: Kusum Singh (Virginia Polytechnic Institute and State University)

Director: Sharon J. Lynch (The George Washington University)

Instructor: James Dietz (National Science Foundation)

Instructor: Ricardo Nemirovsky (San Diego State University)

Instructor: Barry J. Fishman (University of Michigan)

2:15 - 3:15pm

Addressing the Challenge of Learning and Teaching Measurement: Curricular, Learning and Teaching Analyses

BUILDING/ROOM: Colorado Convention Center / Room 607

Assessing the Alignment of Written Curricula and State Standards for Length Measurement

John P. Smith III, Leslie Dietiker, Kuo-Liang Chang, Aaron Mosier, Funda Gonulates, Doug Clements, Mike Battista, Jeffrey Barrett, Craig Cullen, Wenyan Zhou

Hypothetical Learning Trajectory for Length in the Early Years

Clements, D., Sarama, J., and Barrett, J.

A Longitudinal Analysis of Unit Iteration Concepts for Length, Area, and Volume (Grades 2–4)

Barrett, J., Cullen, C., Witkowski, C., Sarama, J., Clements, D., and Klanderma, D.

A Comparison of Representations of Units of Length: A Microgenetic Analysis

Cullen, C., Barrett, J., Sarama, J. and Clements, D.

Exploring Graduate Education: Quality, Engagement, and Career Choices

BUILDING/ROOM: Colorado Convention Center / Room 103

Synergistic effects of teaching and research activities for graduate students

Feldon, D. F., & Stiegelmeyer, C.

Poster Session III

BUILDING/ROOM: Colorado Convention Center / Korbel Ballroom 3

What Predicts Learning with Web Resources? Relationships between Prior Knowledge, Approaches to Online Learning, and Learning Outcome

Kirsten Butcher, Tamara Sumner

4:05 - 5:35pm

Integrating the Components of Doctoral Education

BUILDING/ROOM: Colorado Convention Center / Room 109, 111, 113

Measuring Graduate Students' Teaching and Research Skills through Self-Report: Descriptive Findings and Validity

Gilmore, J. & Feldon, D.

Signs of Learning: Semiotics in Education

BUILDING/ROOM: Sheraton Denver / Plaza Court 3

Examples of How Semiotics Can be Used to Teach Fractions to Prospective Elementary School Teachers

Raven McCrory

Understanding Mathematical Proficiency: New Insights from Cognitive Science

BUILDING/ROOM: Colorado Convention Center / Room 110

"Quick, How Many?" Fluency in "Subitizing" and "Groupitizing" Link to Arithmetic Skills

Bruce McCandliss, Cathy Yun, Minna M. Hannula, Jonathan Vital, Edward Hubbard

Focusing on Feedback Perception: Uptake of Quantitative Feedback in a Mathematics Simulation Environment

Kristen P. Blair, Daniel L. Schwartz

Do Learner Factors Predict Conceptual Learning with Simulations in Science?

BUILDING/ROOM: Colorado Convention Center / Room 102

Factors That Impact Student Engagement and Learning Behaviors in ILEs

Janice D. Gobert, Michael Sao Pedro, Nathan Krach, Juelaila Raziuddin

Sunday, May 2

8:15 - 9:45am

Cognitive Strategies in Science Learning

BUILDING/ROOM: Colorado Convention Center/Room 602

Students' Use of Multiple Strategies for Spatial Thinking in Chemistry
Minjung Ryu, Mike Stieff

Poster Session: Exploring Students' Academic Behavior and Motivation in the Social Context

BUILDING/ROOM: Colorado Convention Center / Korbel Ballroom 3

The Effect of Sex and Race on STEM Majors' Level of Stereotype Threat and Course Grades
Jennifer Cromley

10:35 - 12:05pm

Research Support and Federal Funding Opportunities at IES, NSF, and NIH - What You Should Know

BUILDING/ROOM: Colorado Convention Center / Korbel Ballroom 4 F

Chair: Deborah L. Vandell (University of California - Irvine)
Participant: Allen Ruby (Institute of Education Sciences)
Participant: Janice H. Earle (EHR, National Science Foundation)
Participant: Soo-Siang Lim (SBE, National Science Foundation)
Participant: James A. Griffin (National Institute of Child Health and Human Development)

Methodological Challenges and Findings in a Cross-National Study of Mathematics Teacher Preparation

BUILDING/ROOM: Colorado Convention Center / Room 108

Measurement of the Opportunities That Teacher Education Students Have to Acquire the Mathematics Knowledge and Pedagogy Required To Teach in Programs of Teacher Education
Maria Teresa Tatto, Kiril Bankov, Michael C. Rodriguez

Educational and Scientific Importance of Study
Maria Teresa Tatto, John R. Schwille, Lawrence C. Ingvarson

Learning and Development of New Practices of Spatial Thinking

BUILDING/ROOM: Sheraton / Plaza Court 2

Comparative Analyses of Spatial Thinking in Diverse Professional Practices
Rogers P. Hall, Kevin M. Leander

Getting Into the Map: How the Public Learns to Take Place in Urban Planning
Katherine Headrick Taylor, Rogers P. Hall

Learning to See and to Show: From Mundane to Innovative Modeling in Physical Anthropology
Jasmine Y. Ma, Rogers P. Hall, Kevin M. Leander

Spatial Analysis and Modeling on the Fly
Nathan C. Phillips, Kevin M. Leander

Estimating Critical Values for Strength of Alignment Among Curriculum, Assessments, and Instruction

BUILDING/ROOM: Colorado Convention Center / Korbel Ballroom 3

Poster: Gavin W. Fulmer (National Science Foundation)

12:25 - 1:55pm

Teacher Turnover and Retention

BUILDING/ROOM: Sheraton Denver, Grand Ballroom, Section 2

The Causes and Costs of Turnover for Science and Other Teachers
Abigail Jurist Levy, Lois Joy, Pamela Ellis, Erica Jablonski, Tzur Karelitz

Issues in Assessment

BUILDING/ROOM: Sheraton / Governor's Square 16

An Approach for Developing and Evaluating Instructionally Sensitive Assessments
Maria Araceli Ruiz-Primo, Min Li, Julie Rae Obrian, Deanna J. Sands, Tammy Quinn Tasker,
Amy Nichole Subert, Shin-Ping Tsai

2:15 - 3:45pm

Cognitive Factors in Research on Learning and Teaching Science

BUILDING/ROOM: Colorado Convention Center / Korbel Ballroom 3

Epistemic Criteria for Good Scientific Models
William J. Pluta, Clark A. Chinn, Ravit Golan Duncan

Student Learning in Mathematics and Design of Learning Tasks

BUILDING/ROOM: Colorado Convention Center / Room 708

Evaluation of a Developmental Progression for Length Measurement Using the Rasch Model
Clements, D., Sarama, J., and Barrett, J.

Poster Session 9

BUILDING/ROOM: Colorado Convention Center / Korbel Ballroom 3

Cognitive Factors in Research on Learning and Teaching Science
William J. Pluta, Clark A. Chinn, Ravit Golan Duncan

6:15 - 8:15pm

Informal Learning Environments Research SIG Business Meeting. Current Issues in Informal Learning

BUILDING/ROOM: Sheraton / Plaza Court 8

Participant: Larry E. Suter (National Science Foundation)

Monday, May 3

8:15 - 9:45pm

The Influence of the Academic Disciplines on Doctoral Education

BUILDING/ROOM: Colorado Convention Center / Room 703

The Influence of Environmental Variables on Doctoral Students' Perception of Teaching and Research Integration.

Maheer, M., Gilmore, J., Timmerman, B. & Stiegelmeyer, C.

Doing Chemistry in Changing Times: Mapping Trends and Tensions in U.S. Chemistry Graduate Education

Heidi G. Loshbaugh, Heather L. Thiry, Sandra Laursen

Interest, Engagement, and Learning: Implications for STEM

BUILDING/ROOM: Colorado Convention Center / Room 605

Interest, Engagement, and Learning Over Time: Making It Personal

Carol Sansone

Researching Curricular Effectiveness: Insights From a 3-Year Longitudinal Study of the Impact of Secondary-School Mathematics Curricula

BUILDING/ROOM: Colorado Convention Center / Room 205

Conceptualizing and Measuring "Fidelity of Implementation" of Secondary Mathematics Textbooks: Results of a 3-Year Study of Curriculum Implementation

Melissa D. McNaught, James E. Tarr, Ruthmae Sears

Identification of Student- and Teacher-Level Variables in Modeling Variation of Mathematics Achievement Data

James E. Tarr, Melissa D. McNaught, Oscar Chavez, Daniel James Ross, Douglas A. Grouws, Robert E. Reys, Rukiye Didem Taylan

10:35 - 12:05pm

Curricula That Combine Features and Processes of Informal and Formal Contexts of Student Learning: Comparing the Envisioned, Realized, and Enacted Principles for the Design of Three Elementary Science

BUILDING/ROOM: Sheraton / Governor's Square 9

Implementing Added-Value Technology to Science Instruction Using Teachable Agents

Ilsa Marie Dohmen, Daniel L. Schwartz, Doris B. Chin, Britte Cheng

Exploring What We Know: Mathematics, Teachers' Knowledge, and Beliefs

BUILDING/ROOM: Colorado Convention Center / Room 605

Taiwanese and U.S. Prospective Elementary Teachers' Mathematical Knowledge for Teaching: An Exploratory Study

Raven McCrory

Fostering Communities of Argumentation in Science Classrooms

BUILDING/ROOM: Colorado Convention Center / Room 205

Epistemic Growth in Model-Based Argumentation

Luke Andrew Buckland, Clark A. Chinn, Ravit Golan Duncan

Leadership, Teaching, and Learning

BUILDING/ROOM: Sheraton / Governor's Square 14

Departmental Differences in Students' Perceptions of Instruction in Chicago High Schools

Valerie Lee, Shanta Robinson, Elaine Allensworth, Macarena Correa

Learning and Understanding of Mathematical Concepts and Teaching

BUILDING/ROOM: Colorado Convention Center / Room 201

Discourse and Knowing in Undergraduate Students' Learning of Proof

Maria L. Blanton, Despina A. Stylianou

Learning with Computers: Technology and Cognition

BUILDING/ROOM: Colorado Convention Center / Room 105

High School Students' Comprehension of Text and Diagrams: Testing a Model With Eye-Tracking Data

Jennifer Cromley

Technology Use in Science Education

BUILDING/ROOM: Colorado Convention Center / Korbell Ballroom 3

Using an Engineering-Design-Based Lego Module for Teaching Sound to Third Graders

Ismail Marulcu, Michael Barnett

12:25 - 1:55pm

Contextualizing Teacher Learning: Understanding Participation in Mathematics Professional Development in a Political Context

BUILDING/ROOM: Colorado Convention Center / Room 706

Professional Development and Study Context

Dan Battey

Effective Characteristics of Agents, Tutors, and Interactive Environments: Recent Advances

BUILDING/ROOM: Colorado Convention Center / Room 203

Teachable Agents Go to School: Benefits of an Educational Technology in a Real-World Learning Environment

Doris B. Chin, Ilsa M. Dohmen, & Daniel L. Schwartz

The Place of Education Research in a Science Agency: A Perspective From the National Science Foundation

BUILDING/ROOM: Colorado Convention Center / Korbell Ballroom 1 EF

Participant: Joan Ferrini-Mundy (EHR, National Science Foundation)

Chair: Camilla P. Benbow (National Science Foundation Science Board; Vanderbilt University)

Discussant: Timothy L. Killeen (Geosciences Directorate, National Science Foundation)

Discussant: Richard J. Shavelson (Stanford University)

2:15 - 3:45pm

Embodied and Enactive Approaches to Instruction: Implications and Innovation

BUILDING/ROOM: Sheraton Denver / Governor's Square 14

Commentary Paper
Robert Goldstone

Mathematics Professional Development: Teaching, Teachers, and Administrators

BUILDING/ROOM: Colorado Convention Center / Room 205

Making the Abstract Concrete in Mathematics Classes for Future Elementary Teachers
Raven McCrory

Understanding Small Group Leadership in Asynchronous Discussion Forums

BUILDING/ROOM: Colorado Convention Center / Room 102

Problem-Based Education: Research on Professional Development
Julia Gressick, Sharon Derry

4:05 - 5:35pm

Project RISE Pilot Study: Methods in Longitudinal Studies of Youth in Informal STEM Education

BUILDING/ROOM: Colorado Convention Center / Room 205

*Improving Student Interest Toward Science: Results From National Science Foundation ITES
Program*
Carrie Parker

Tuesday, May 4

8:15 - 9:45am

Implementing Best-Practice Methodology Given School Realities: Approaches From a Middle School Science Intervention Evaluation

BUILDING/ROOM: Sheraton Denver / Plaza D

Translational Science of Cognitive Science in Middle School Curricula
Jennifer Cromley

10:35 - 12:05pm

Investigating Professional Instruction: Explorations, Misconceptions, and Perceptions

BUILDING/ROOM: Colorado Convention Center / Room 710

Playful Exploration to Improve Design
Barbara Tversky

2:15 - 3:45pm

Learning With Visual Displays and Diagrams

BUILDING/ROOM: Colorado Convention Center / Room 102

Teaching Effective Use of Diagrammatic Reasoning in Biology
Jennifer Cromley

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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