

| <b>Award No.</b> | <b>Title</b>   | <b>PI</b>               | <b>Institution</b>                            |
|------------------|--|-------------------------|---|
| <b>1114933</b>   | RAPID-System-level Professional Development: Articulating Research Ideas that Support Implementation of PD Needed for Making the CCSS in Mathematics Reality for K-12 Teachers | Paola Sztajn            | North Carolina State University               |
| <b>1118530</b>   | EcoMobile: Blended real and virtual immersive experiences for learning complex causality and ecosystems science  | Christopher Dede        | Harvard University                            |
| <b>1118766</b>   | Promoting Science among English Language Learners (P-SELL) Scale-Up  | Okhee Lee               | University of Miami                           |
| <b>1118812</b>   | Children's Understanding of Functions in Grades K-2  | Maria Blanton           | University of Massachusetts, Dartmouth        |
| <b>1118844</b>   | Collaborative Research: Examining Formative Assessment Practices for English Language Learners in Science Classrooms   | Guillermo Solano-Flores | University of Colorado at Boulder             |
| <b>1118851</b>   | Multiple Instrumental Case Studies of Inclusive STEM-focused High Schools: Opportunity Structures for Preparation and Inspiration (OSPrl).                                     | Sharon Lynch            | George Washington University                  |
| <b>1118858</b>   | Completing, Validating, and Linking Learning Trajectories for K-8 Rational Number Reasoning Tied to the Common Core Standards  | Jere Confrey            | North Carolina State University               |
| <b>1118951</b>   | Collaborative Research: Examining Formative Assessment Practices for English Language Learners in Science Classrooms   | Min Li                  | University of Washington                      |
| <b>1118993</b>   | The Effectiveness of Inclusive STEM Schools at Scale: A Multistate Longitudinal Quasi-Experiment   | Barbara Means           | SRI International                             |
| <b>1119444</b>   | An Innovative Approach to Earth Science Teacher Preparation: Uniting Science Informal Science Education and Schools to Raise Student Achievement                               | Maritza Macdonald       | American Museum of Natural History            |
| <b>1125621</b>   | R&D: Diagnosing Teachers' Multiplicative Reasoning   | Andrew Izsak            | University of Georgia Research Foundation Inc |
| <b>1157534</b>   | R&D: SAVE Science: Situated Assessment using Virtual Environments for Science Content and Inquiry  | Diane Ketelhut          | University of Maryland College Park           |

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| <b>1118658</b>   | Collaborative Research: Further Development and Testing of the Target Inquiry Model for Middle and High School Science Teacher Professional Development | Deborah Herrington | Grand Valley State University                          |
| <b>1119122</b>   | Investigating and Supporting the Development of Ambitious and Equitable Mathematics Instruction at Scale  | Paul Cobb          | Vanderbilt University                                  |
| <b>1119163</b>   | Implementing the Mathematical Practice Standards: Enhancing Teachers' Ability to Support the Common Core State Standards                                | E. Paul Goldenberg | Education Development Center                           |
| <b>1119736</b>   | Taking Foundation Science to Scale-- Digitally: Transforming a Print Curriculum into an Innovative Learning Tool for Commercial Distribution            | Jacqueline Miller  | Education Development Center                           |
| <b>1118749</b>   | Collaborative Research: Further Development and Testing of the Target Inquiry Model for Middle and High School Science Teacher Professional Development | Ellen Yeziarski    | Miami University                                       |
| <b>1118876</b>   | Collaborative Research: Examining Formative Assessment Practices for English Language Learners in Science Classrooms                                    | Maria Ruiz-Primo   | University of Colorado at Denver                       |
| <b>1119144</b>   | Challenge 5 - Leveling Up: Supporting and Measuring High School STEM Knowledge Building in Social Digital Games   | Jodi Asbell-Clarke | TERC Inc   |
| <b>1119359</b>   | Collaborative Research Project: School Structure and Science Success: Organization and Leadership Influences on Student Achievement                     | Malcolm Butler     | University of South Florida                            |
|                  | CyberSTEM: Making Discovery Visible Through Digital Games   | Kurt Squire        | University of Wisconsin-Madison                        |
| <b>1020310</b>   | Measuring the effects of a school-based, data-driven professional learning model for raising secondary mathematics achievement                          | David Weaver       | RMC Research Corporation                               |
| <b>1033934</b>   | A Framework for Assessing Environmental Literacy  | Karen Hollweg      | North American Association for Environmental Education |

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|------------------|---|-------------------|---|
| <b>1052662</b>   | Helping Mathematics Teacher Become Culturally Relevant Educators: New Tools for a New Generation-Conference II                                      | Martin Johnson    | University of Maryland College Park               |
| <b>1108723</b>   | Curriculum and Assessment Partnership Conference  | Solomon Garfunkel | Consortium For Mathematics & Its Applications Inc |
| <b>1110524</b>   | Urban Ecology Course Materials Created with a Universal Design for Learning Framework   | Eric Strauss      | Loyola Marymount University                       |
| <b>1114829</b>   | TOWARD INTEGRATED STEM EDUCATION: DEVELOPING A RESEARCH AGENDA  | Greg Pearson      | National Academy of Sciences                      |
| <b>1118671</b>   | Developing and Testing a Model to Support Student Understanding of the Sub-Microscopic Interactions that Govern Biological and Chemical Processes   | Joseph Krajcik    | University of Michigan Ann Arbor                  |
| <b>1118682</b>   | Collaborative Research: ScratchJr: Computer programming in early childhood education as a pathway to academic readiness and success                 | Mitchel Resnick   | Massachusetts Institute of Technology             |
| <b>1119034</b>   | Development of a Cognition-Guided, Formative-Assessment-Intensive, Individualized Computer-Based Dynamic Geometry Learning System for Grades 3-8    | Michael Battista  | Ohio State University                             |
| <b>1119290</b>   | Enhancing Games with Assessment and Metacognitive Emphases (EGAME)  | Douglas Clark     | Vanderbilt University                             |
| <b>1119342</b>   | Investigating the Impact of Math Teachers' Circles on Mathematical Knowledge for Teaching and Classroom Practice                                    | J. Brian Conrey   | American Institute of Mathematics                 |
| <b>1119349</b>   | Collaborative Research and Development Project. School Structure and Science Success: Organization and Leadership Influences On Student Achievement | John Settlage     | University of Connecticut                         |
| <b>1119518</b>   | Mathematical Argumentation in Middle School: Bridging from Professional Development to Classroom Practice   | Jennifer Knudsen  | SRI International                                 |
| <b>1119670</b>   | CLASS: Continuous Learning and Automated Scoring in Science   | Marcia Linn       | University of California-Berkeley                 |

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| <b>1132141</b>   | CAREER: Investigating the Critical Junctures: Strategies that Broaden Minority Participation in STEM Fields   | Terrell Strayhorn   | Ohio State University                               |
|                  | Collaborative Research: An Agent-Based Simulation Environment for Predictive Longitudinal Modeling of High School Math Performance                              | Joanne Wendelberger | Los Alamos National Laboratory                      |
|                  | Collaborative Research: An Agent-Based Simulation Environment for Predictive Longitudinal Modeling of High School Math Performance                              | Paul Resta          | University of Texas at Austin                       |
|                  | Collaborative Research: An Agent-Based Simulation Environment for Predictive Longitudinal Modeling of High School Math Performance                              | Michael Strong      | University of California-Santa Cruz                 |
|                  | STEM Learning in the Context of Green School Buildings: A Curriculum Planning Project for the Middle Grades   | Jo Ellen Roseman    | American Association for Advancement Science        |
| <b>1052958</b>   | CAREER: Noticing and Capitalizing on Important Mathematical Moments in Instruction  | Shari Stockero      | Michigan Technological University                   |
| <b>1054280</b>   | CAREER: Engaging elementary students in data analysis through study of physical activities  | Victor Lee          | Utah State University                               |
| <b>1055067</b>   | CAREER: Mathematics Instruction for English Language Learners (MI-ELL)  | Alejandra Sorto     | Texas State University - San Marcos                 |
| <b>1118168</b>   | LOCUS: Levels of Conceptual Understanding in Statistics   | Tim Jacobbe         | University of Florida                               |
| <b>1118392</b>   | Collaborative Research: Overcoming Obstacles to Scaling-Up with a Cyberlearning Professional Development Model  | Tamara Sumner       | University of Colorado at Boulder                   |
| <b>1118745</b>   | Developing Teaching Expertise in K-5 Mathematics  | Kara Suzuka         | University of Michigan Ann Arbor                    |
| <b>1118571</b>   | Gateways to Algebraic Motivation, Engagement and Success (GAMES): Supporting and Assessing Fraction Proficiency with Game-Based Mobile Applications and Devices | Michael Evans       | Virginia Polytechnic Institute and State University |
| <b>1118643</b>   | Energy: A Multidisciplinary Approach for Teachers (EMAT) Designing and Studying a Multidisciplinary, Course for High School Teachers                            | Susan Kowalski      | Biological Sciences Curriculum Study                |

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| <b>1118664</b>   | COLLABORATIVE RESEARCH: ScratchJr: Computer programming in early childhood education as a pathway to academic readiness and success | Marina Bers       | Tufts University                                |
| <b>1118677</b>   | Promoting Spatial Thinking with Web-based Geospatial Technologies   | Alec Bodzin       | Lehigh University                               |
| <b>1118897</b>   | Ready for Robotics: The missing T and E of STEM in early childhood education  | Marina Bers       | Tufts University                                |
| <b>1118772</b>   | The Science and Mathematics Simulated Interaction Model (SIM)   | Benjamin Dotger   | Syracuse University                             |
| <b>1118773</b>   | Collaborative Research: Computer-Supported Math Discourse Among Teachers and Students   | Gerry Stahl       | Drexel University                               |
| <b>1118888</b>   | Collaborative Research: Computer-Supported Math Discourse Among Teachers and Students   | Arthur Powell     | Rutgers University Newark                       |
| <b>1118894</b>   | PROJECT ATOMS: Accomplished Elementary Teachers of Mathematics and Science  | Ellen McIntyre    | North Carolina State University                 |
| <b>1118942</b>   | Transforming Teaching through Implementing Inquiry (T2I2)   | Jeremy Ernst      | North Carolina State University                 |
| <b>1119055</b>   | Designing an Integrated Framework for Genetics Education to Develop Innovative Curricula and Assessments                            | LaTonya Williams  | Michigan State University                       |
| <b>1119118</b>   | Next Generation Preschool Math  | Ashley Lewis      | Education Development Center                    |
| <b>1119167</b>   | An Examination of Science and Technology Teachers' Conceptual Learning through Concept-Based Engineering Professional Development   | Rodney Custer     | Illinois State University                       |
| <b>1119202</b>   | Collaborative Research: Overcoming Obstacles to Scaling-Up with a Cyberlearning Professional Development Model                      | Barbara Zahm      | It's About Time, A Division of Herff-Jones Inc. |
| <b>1119321</b>   | InterLACE: Interactive Learning and Collaboration Environment   | Ethan Danahy      | Tufts University                                |
| <b>1119327</b>   | Cluster Randomized Trial of the Efficacy of Early Childhood Science Education for Low-Income Children                               | Laurie Van Egeren | Michigan State University                       |
| <b>1119383</b>   | CyberSTEM: Making Discovery Visible Through Digital Games   | Susan Millar      | University of Wisconsin-Madison                 |
| <b>1119468</b>   | Teaching Evolution through Human Examples (TEtHE)   | Briana Pobiner    | Smithsonian Institution                         |

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| <b>1119485</b>   | Teacher Residency Academy Alliance   | William McHenry    | National Board for Professional Teaching Standards |
| <b>1119512</b>   | Morehouse College DR K-12 Pre-Service STEM Teacher Initiative  | Cynthia Trawick    | Morehouse College                                  |
| <b>1119584</b>   | Constructing and Critiquing Arguments in Middle School Science Classrooms: Supporting Teachers with Multimedia Educative Curriculum Materials    | Suzanna Loper      | University of California-Berkeley                  |
| <b>1119589</b>   | Persistence of Teacher Change in Rural Schools: Assessing the Short- and Long-term Impact of Professional Development on K-2 Science Instruction | Cathy Ringstaff    | WestEd   |
| <b>1119654</b>   | Student Mathematics Learning Through Self-Explanation, Peer Tutoring and Digital Media Production  | Eric Hamilton      | Pepperdine University                              |
| <b>1134919</b>   | Arcadia: The Next Generation - Transforming STEM Learning through Transmedia Games   | Jodi Asbell-Clarke | TERC Inc   |
| <b>1119678</b>   | Model of Research-based Education for Teachers   | Chris Ohana        | Western Washington University                      |
| <b>1135120</b>   | Educating the Imagination: A Studio Design for Transformative Science Learning   | Beth Warren        | TERC Inc   |
| <b>1135137</b>   | STEM Learning in the Context of Green School Buildings: A Curriculum Planning Project for the Middle Grades                                      | Linda Wilson       | American Association for Advancement Science       |