

2023-24 DRK-12 New Awards

This list contains grants awarded fall 2023 – summer 2024.

**Denotes CADRE Fellows alumnus.*

NEW! *Denotes awards made since CADRE's August 2024 newsletter.*

Award #	Project Title	PI	Institution
2342747	A Semiconductor Curriculum and Learning Framework for High Schoolers Using Artificial Intelligence, Game Modules, and Hands-on Experiences (Collaborative Research: Lipsmeyer)	Lin Lipsmeyer	Southern Methodist University
2405238	actLocal - A Platform for Developing Localized Simulations to Support Interactive Learning About Climate Change	Andrew Ruis	University of Wisconsin-Madison
2332964	Advancing AI in Science Education (AASE): A Comprehensive Approach to Equity, Inclusion, and Three-Dimensional Learning	Xiaoming Zhai	University of Georgia
2405110	NEW! An AI-Enhanced Colleague for Teachers: Developing and Studying an Innovative Platform for Efficient, Inclusive Middle-Grade Mathematics Lesson Planning	Min Sun	University of Washington
2404864	An Investigation of Effective Methods for Using Writing in Secondary Math and Science to Improve Student Outcomes	Hannah Carter	Boise State University
2405657	Broadening Participation Among Multilingual Learners Through High School Teachers' Professional Learning Experiences in the Instructional Conversation Pedagogy	Paula Mellom	University of Georgia
2405894	Building Capacity in a Rural School District to Support Teacher Development in STEM Areas Through Cycles of Continuous Improvement	Rodolfo Rincones	The University of Texas at El Paso
2406033	NEW! Building Teacher Capacity for Teaching Across Science Disciplines Using "Smart" Greenhouses (Collaborative Research: Barnett)	George Barnett	Boston College
2405584	NEW! Building Teacher Capacity for Teaching Across Science Disciplines Using "Smart" Greenhouses (Collaborative Research: Whitt)	Katahdin Cook Whitt	Maine Mathematics and Science Alliance
2405585	NEW! Building Teacher Capacity for Teaching Across Science Disciplines Using "Smart" Greenhouses (Collaborative Research: Zha)	Shenghua Zha	University of South Alabama

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2321499	Capturing and Leveraging Data from Teacher-Student Interactions to Improve STEM Learning: An Incubator Project	Justin Reich	Massachusetts Institute of Technology
2425694	Capturing Individual Student Real-Time Classroom Experience and Engagement: A Laboratory for Breakthrough Advances in STEM and Equity	Robert Pianta	University of Virginia
2340829	CAREER: Cultivating Environmental Science Data Agency Through Data Storytelling and Issue-based Learning	Li Ke	University of Nevada, Reno
2338735	CAREER: Identifying, Enabling, and Supporting Racial Justice in Science Teaching	Katherine Wade-Jaimes	University of Nevada, Las Vegas
2336391	CAREER: Inviting All 21st Century Problem-Solvers: Building Equity by De-tracking Middle School Mathematics Instruction	Jennifer Ruef	University of Oregon
2337709	CAREER: Sparking "Number Talks" to Strengthen Mathematical Identities	Dawn Woods	Oakland University
2337457	CAREER: Supporting Teachers to Leverage Students' Languages in Mathematics	Samantha Marshall Pham	North Carolina State University
2405464	Centering Indigenous Science in K-12 Science Instructional Materials	Jedda Foreman	University of California, Berkeley
2405747	Co-constructing a Research Program Through Community Dialogues About Mathematical Storylines	Carlos Gómez Marchant*	The University of Texas at Austin
2405120	NEW! Coherent Asynchronous Online Mathematics Teacher Professional Learning for Equitable Instruction	Nanette Seago	WestEd
2405487	Cultivating Math Resilience: Fostering a Durable School-University Partnership Working to Promote Math Confidence in Post-Pandemic Education	Mathew Uretsky	Portland State University
2341159	Culturally Sustaining Approaches to Science and Engineering Classroom Assessments	Christopher Wright	Drexel University
2405224	NEW! Designing a Teacher Learning Sequence for Building on Mathematical Opportunities in Student Thinking (Collaborative Research: Peterson)	Blake Peterson	Brigham Young University

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2405225	NEW! Designing a Teacher Learning Sequence for Building on Mathematical Opportunities in Student Thinking (Collaborative Research: Stockero)	Shari Stockero	Michigan Technological University
2405633	Designing Effective and Equitable Professional Learning for Middle School Computer Science Teachers	Hao Yue	San Francisco State University
2405615	Designing Interactive Visualizations of Neural Pathways in Language-based AI for Secondary Students to Explore Interpretability of AI and Human-Machine Collaboration	Jie Chao	The Concord Consortium
2405574	NEW! Developing Learning Trajectories Supporting Middle School Student Understanding of Artificial Intelligence Concepts	Irene Lee	New Mexico State University
2405591	Developing Professional Learning Experiences in Engineering for High School Counselors	Medha Dalal	Arizona State University
2404929	Development of the Orienting Positive Emotions in New Educators for Mathematics (OPEN for Math) Professional Learning Program	Leigh McLean	University of Delaware
2405854	Empowering Teachers to Integrate Computational Thinking into Middle School Classrooms (Collaborative Research: Barnes)	Tiffany Barnes	North Carolina State University
2405855	Empowering Teachers to Integrate Computational Thinking into Middle School Classrooms (Collaborative Research: Chiu)	Jennifer Chiu	University of Virginia
2405867	NEW! Empowering Tomorrow's Scientists: A Preprint and Peer Review Platform to Transform Student Learning and Participation in Science Communication Innovations	Sarah Fankhauser	Emory University
2405488	Engaging Elementary Teachers in Developing and Implementing Instructional Materials Promoting Socioscientific Literacy	Jerrid Kruse	Drake University
2405373	NEW! Engaging High Schoolers in Integrated Computer Science and Engineering Through Hands-On Experiences with Microelectronics and Artificial Intelligence (Collaborative Research: Antonenko)	Pavlo Antonenko	University of Florida

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2405374	NEW! Engaging High Schoolers in Integrated Computer Science and Engineering Through Hands-On Experiences with Microelectronics and Artificial Intelligence (Collaborative Research: Eutsler)	Lauren Eutsler	University of North Texas
2405375	NEW! Engaging High Schoolers in Integrated Computer Science and Engineering Through Hands-On Experiences with Microelectronics and Artificial Intelligence (Collaborative Research: Hoque)	Tamzidul Hoque	University of Kansas
2326170	Enhancing the Future of Teacher Practice via AI-Enabled Formative Feedback for Job-Embedded Learning (Collaborative Research: D'Mello)	Sidney D'Mello	University of Colorado Boulder
2326169	Enhancing the Future of Teacher Practice via AI-Enabled Formative Feedback for Job-Embedded Learning (Collaborative Research: Kelly)	Sean Kelly	University of Pittsburgh
2405717	Establishing a Partnership Among a State Department of Education, Educators, School District Leaders, and Researchers to Enhance Early Childhood Educators' Mathematics Teaching	Lynsey Gibbons	University of Delaware
2405609	Establishing a Partnership Between a Rural School and an Urban University to Support Algebra 1 Learning for Students with Learning Disabilities	Casey Hord*	University of Cincinnati
2404553	Exploratory Study of Children's Multi-Digit Multiplication and Division	Karl Kosko	Kent State University
2406920	NEW! Frameworks for Phenomenal Science Success: Enhancing Partnerships for Aina-based NGSS Experiences	Pascale Pinner	Hawaii Science and Technology Museum
2322330	Incubating Infrastructure for Experimentation on Inclusive STEM Teaching Practices	David Yeager	The University of Texas at Austin
2425651	NEW! Incubating the Use of Artificial Intelligence for Conducting High-Quality Research Syntheses	Joshua Polanin	American Institutes for Research
2405483	Interactive, Individualized Professional Learning for Elementary School Teachers: Enhancing Content and Pedagogical Content Knowledge as a Basis for Improving Practice	Yasemin Copur-Gencturk	University of Southern California
2405432	NEW! Investigating Changes to Teachers' Classroom Practices After Participation in Different Professional Development Models	Karen Koellner	Arizona State University

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2405378	Investigating Teacher Expertise Within a Nested Learning System Using Mathematics Professional Learning Communities in Elementary and Middle Schools	Temple Walkowiak	North Carolina State University
2405862	NEW! Investigation of Students' Learning, Interest, and Career Aspirations in an Integrated Science and Artificial Intelligence Learning Environment (i-SAIL)	Bitra Akram	North Carolina State University
2405911	NEW! Learning How to Help Middle Grades Science Teachers Integrate Data Exploration and Sensemaking in the Classroom (Collaborative Research: Griffith)	Jonathan Griffith	University of Colorado Boulder
2405912	NEW! Learning How to Help Middle Grades Science Teachers Integrate Data Exploration and Sensemaking in the Classroom (Collaborative Research: Rosenberg)	Joshua Rosenberg	University of Tennessee, Knoxville
2405243	NEW! Leveraging Exit Tickets to Enhance Students' Self-Regulated Learning and Mathematics Knowledge	Kelley Durkin	Vanderbilt University
2405829	Math Partners: Collaborations to Support Early Math Learning	Stephanie Smith	University of Illinois at Urbana-Champaign
2405217	Milwaukee Mathematics Dual Enrollment Equity Pathways	Ann Edwards	WestEd
2405849	Partnership Development for Career-Long Teacher Learning in Elementary Mathematics and Science	Marisol Kevelson	Educational Testing Service
2405779	Professional Learning Hub for Early Science (HubES): Leveraging Technology to Develop Supports for Educators to Promote Meaningful Science Learning in Preschool	Ximena Dominguez	Digital Promise
2404966	Professional Learning to Navigate Student Uncertainty for Productive Struggle Around Equity-Oriented Sensemaking	Ying-Chih Chen	Arizona State University
2405797	Project AIM: The Network Meta-analysis of Active Ingredients of Mathematics Instruction	Peng Peng	The University of Texas at Austin

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2413236	Promoting Equity Through Localization and High-Quality Instructional Materials: Bringing Together Practitioners, Researchers, and Designers	Daniel Alcazar-Roman	University of California, Berkeley
2329874	Quantum Teaching and Learning in Elementary Classrooms	Nancy Holincheck	George Mason University
2405437	NEW! Scientific Sensemaking About Place-based Phenomena: Mobilizing Rural Elementary Teacher Learning to Propel School-Wide Transformation (Collaborative Research: Mawyer)	Kirsten Mawyer	University of Hawai'i
2405436	NEW! Scientific Sensemaking About Place-based Phenomena: Mobilizing Rural Elementary Teacher Learning to Propel School-Wide Transformation (Collaborative Research: Taylor)	Suzanne Taylor	Montana State University
2405435	NEW! Scientific Sensemaking About Place-based Phenomena: Mobilizing Rural Elementary Teacher Learning to Propel School-Wide Transformation (Collaborative Research: Whitt)	Katahdin Cook Whitt	Maine Mathematics and Science Alliance
2405431	NEW! Socially Transformative Engineering Pedagogy for a Sustainable Future	Senay Purzer	Purdue University
2405213	Strengthening and Developing Partnerships in East Tennessee for Community Engagement in Artificial Intelligence Education	Rachel Wong	University of Tennessee, Knoxville
2412719	Supporting Mid-scale Research Infrastructure Readiness for STEM Education Research Teams	Margaret Levenstein	University of Michigan
2405463	NEW! Supporting Teachers Appropriation of Ambitious Teaching Practice Within the Context of Implementing Complex Multidimensional Science Assessments	Jill Wertheim	WestEd
2405799	Supporting Teacher Customizations of an Integrated Science, Engineering, and Computational Thinking Curriculum Unit (Collaborative Research: Basu)	Satabdi Basu	SRI International
2405800	Supporting Teacher Customizations of an Integrated Science, Engineering, and Computational Thinking Curriculum Unit (Collaborative Research: Biswas)	Gautam Biswas	Vanderbilt University

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2405798	Supporting Teacher Customizations of an Integrated Science, Engineering, and Computational Thinking Curriculum Unit (Collaborative Research: Chiu)	Jennifer Chiu	University of Virginia
2405230	Teacher Professional Development and Collaboration to Integrate Cybersecurity in Mathematics and Science Elementary Curriculum	Florence Martin	North Carolina State University
2405127	Teaching All Cs Through Inclusion and Collaboration with Special Education (TACTICS) (Collaborative Research: Israel)	Maya Israel	University of Florida
2405128	Teaching All Cs Through Inclusion and Collaboration with Special Education (TACTICS) (Collaborative Research: Mak)	Janice Mak*	Arizona State University
2405930	NEW! Teaching for the Anthropocene: Teacher Learning and Practice for Critical Systems Thinking (Collaborative Research: Kayumova)	Shakhnoza Kayumova	University of Massachusetts, Dartmouth
2405929	NEW! Teaching for the Anthropocene: Teacher Learning and Practice for Critical Systems Thinking (Collaborative Research: Strom)	Kathryn Strom	California State University, East Bay
2428364	NEW! The 2027 National Survey of Science, Mathematics, Computer Science, and Engineering Education	Eric Banilower	Horizon Research, Inc.
2404984	The Impact of an Inclusive Grades K-2 Early Algebra Intervention Implemented by Classroom Teachers	Maria Blanton	TERC
2405602	NEW! Video Professional Development to Explore and Support Video Club Facilitator Learning and Practice	Margaret Walton	University of Maryland
2405549	NEW! Virtual Research Laboratories to Bridge from Educational Games to Real-World Scientific Research in Polar Regions	David Gagnon	University of Wisconsin-Madison
2405785	NEW! Youth Learning Science and Engineering While Developing Community-based Agency Through Resourceful Engagement in STEM (Collaborative Research: Bryan)	Lynn Bryan	Purdue University
2405786	NEW! Youth Learning Science and Engineering While Developing Community-based Agency Through Resourceful Engagement in STEM (Collaborative Research: Hunter)	James Hunter	Morgan State University