



Showcasing Research and Education Projects Supported by the National Science Foundation

The Coalition for National Science Funding (CNSF) is an alliance of over 135 organizations united by a concern for the future vitality of the national science, mathematics, and engineering enterprise. CNSF supports the goal of increasing the national investment in the National Science Foundation's research and education programs. These programs increase and develop the knowledge base needed for pushing the frontiers of science, mathematics and engineering disciplines; contribute to the development of the future science and technology workforce; underpin new fields of inquiry; and promote interdisciplinary research and education – all of which facilitate technological innovation.



## COALITION FOR NATIONAL SCIENCE FUNDING

Afterschool Alliance  
 American Anthropological Association  
 American Association for the Advancement of Science  
 American Association for Dental Research  
 American Association of Physics Teachers  
 American Astronomical Society  
 American Chemical Society  
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 American Institute for Medical and Biological Engineering  
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 American Mathematical Society  
 American Physical Society  
 American Physiological Society  
 American Political Science Association  
 American Psychological Association  
 American Society for Biochemistry and Molecular Biology  
 American Society for Engineering Education  
 American Society for Microbiology  
 American Society of Agronomy  
 American Society of Civil Engineers  
 American Society of Mechanical Engineers  
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 American Sociological Association  
 American Statistical Association  
 Arafune Government Relations Group  
 Arctic Research Consortium of the U.S. (ARCUS)  
 Associated Universities, Inc.  
 Association for Psychological Science  
 Association for the Sciences of Limnology & Oceanography  
 Association for Women in Mathematics  
 Association for Women in Science  
 Association of American Geographers  
 Association of American Medical Colleges  
 Association of American Universities  
 Association of Environmental & Engineering Geologists  
 Association of Public and Land-grant Universities  
 Association of Research Libraries  
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 Association of Universities for Research in Astronomy, Inc. (AURA)  
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 Biophysical Society  
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 Brown University  
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 Coalition for Academic Scientific Computation  
 Coastal and Estuarine Research Federation  
 Columbia University  
 Computing Research Association  
 Consortium for Ocean Leadership  
 Consortium of Social Science Associations  
 Consortium of Universities for the Advancement of Hydrologic Science  
 Cornell University  
 Council of Graduate Schools  
 Council of Scientific Society Presidents  
 Council on Food, Agricultural and Resource Economics  
 Council on Undergraduate Research  
 Crop Science Society of America  
 Duke University  
 Earthquake Engineering Research Institute  
 Ecological Society of America  
 Entomological Society of America  
 Federation of American Societies for Experimental Biology  
 Federation of Associations in Behavioral & Brain Sciences  
 Federation of Materials Societies  
 Genetics Society of America  
 Geological Society of America

Georgia Institute of Technology  
 Harvard University  
 Human Factors and Ergonomics Society  
 IRIS Consortium  
 Indiana University  
 Institute of Electrical and Electronics Engineers (IEEE-USA)  
 Lewis-Burke Associates LLC  
 Linguistic Society of America  
 Madison Associates LLC  
 George Mason University  
 Massachusetts Institute of Technology  
 Materials Research Society  
 Mathematical Association of America  
 Michigan State University  
 Museum of Science, Boston  
 MWW Group  
 National Association of Marine Laboratories (NAML)  
 National Communication Association  
 National Council for Science and the Environment  
 National Ecological Observatory Network (NEON)  
 National Ground Water Association  
 National Postdoctoral Association  
 National Science Teachers Association  
 National Society of Professional Engineers  
 North Carolina State University  
 Northwestern University  
 The Ohio State University  
 The Oldaker Group, LLC  
 Optical Society of America  
 Oregon State University  
 Ornithological Council  
 Pennsylvania State University  
 Population Association of America/Association of Population Centers  
 Princeton University  
 Rensselaer Polytechnic Institute  
 ResearchAmerica  
 Rowan University  
 Rutgers, The State University of New Jersey  
 Seismological Society of America  
 Semiconductor Industry Association  
 Society for Historical Archaeology  
 Society for Industrial and Applied Mathematics  
 Society for Neuroscience  
 Society for Research in Child Development  
 Soil Science Society of America  
 SPIE  
 State University of New York System (SUNY)  
 State University of New York at Stony Brook  
 Stevens Institute of Technology  
 Texas Tech University  
 Tufts University  
 UNAVCO  
 University Corporation for Atmospheric Research  
 University of California  
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 University of Cincinnati  
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 University of Florida  
 University of Illinois  
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 University of New Mexico  
 University of New Orleans  
 University of Pennsylvania  
 University of South Carolina  
 University of Wisconsin  
 Vanderbilt University  
 Washington State University  
 Washington University in St. Louis  
 Wells Consulting  
 West Virginia University  
 Woods Hole Oceanographic Institution

# INVESTMENTS IN STEM RESEARCH & EDUCATION: FUELING AMERICAN INNOVATION

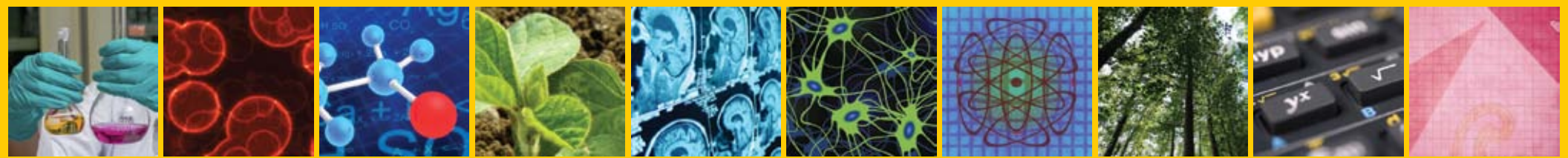


COALITION FOR NATIONAL SCIENCE FUNDING  
**20TH ANNUAL EXHIBITION AND RECEPTION**  
 WEDNESDAY, MAY 7, 2014  
 RAYBURN HOUSE OFFICE BUILDING  
 WASHINGTON, DC

**CO-SPONSORS**  
 American Astronomical Society  
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# EXHIBITORS 2014

## American Economic Association/Population Association of America

Continuity and Change in American Economic and Social Life

Prof. CHARLES BROWN  
University of Michigan

## American Educational Research Association

Integrating Quality Talk Professional Development to Enhance Professional Vision and Leadership for STEM Teachers in High-Need Schools

P. KAREN MURPHY  
The Pennsylvania State University

## American Geosciences Institute/American Geophysical Union/Geological Society of America

25,000 Feet under the Sea: Studying Japan's 2011 Tohoku Earthquake

Dr. PATRICK FULTON and Dr. JAMES SAMPLE  
University of California, Santa Cruz and Northern Arizona University

## American Mathematical Society

Topological Sensor Networks

Prof. ROBERT GHRIST  
University of Pennsylvania

## American Psychological Association/Vanderbilt University

Russell the Robot: Engaging Children with Autism through Psychological and Engineering Research

ZACHARY WARREN, PhD and NILANJAN SARKAR, PhD  
Vanderbilt University

## American Society of Plant Biologists

From Fire to Food: How Smoke Signals May Unlock New Innovations in Agriculture

DAVID C. NELSON, PhD  
University of Georgia

## American Statistical Association

Statistics for Mixed Big Data in Cancer Genomics

Prof. GENEVERA ALLEN  
Rice University

## Associated Universities, Inc.

The National Radio Astronomy Observatory

MARK ADAMS

## Association of Science-Technology Centers Center for Advancement of Informal Science Education

Showcasing EHR Grants: Intersections and CAISE

MARGARET GLASS, PhD

## Brown University

How Mathematics Research Fuels Innovation

Prof. JILL PIPHER and RUTH CRANE  
Institute for Computational and Experimental Research in Mathematics (ICERM)

## Coalition for Academic Scientific Computation

HPC Centers & STEM

Dr. CURT HILLEGAS  
Princeton University

## Computing Research Association

Printable Robots and Soft Robots

ANKUR MEHTA, JOSEPH DELPRETO and ROBERT KATZSCHMANN  
Massachusetts Institute of Technology

## Consortium of Universities for the Advancement of Hydrologic Science Inc.

Water Data Center—Advancing Hydrologic Research and Education

EMILY GEOSLING

## Council on Undergraduate Research

Institutionalizing Undergraduate Research for State Systems and Consortia

SHONTAY KINCAID

## Ecological Society of America

Wildflower Response to Climate Change

Prof. DAVID INOUIYE  
University of Maryland

## Entomological Society of America

Optimizing Crop Yields: Pollinators, Pests and Pathogens

Prof. GARY FELTON and Prof. CHRISTINA GROZINGER  
The Pennsylvania State University

## Genetics Society of America

Beyond the Gene: Epigenetic Control of Seed Development

MARY GEHRING, PhD  
Massachusetts Institute of Technology  
Whitehead Institute for Biomedical Research

## Michigan State University

STEM Genetics: Steps Towards Success

Prof. MICHELLE WILLIAMS and AMY FRAHM

## Museum of Science, Boston

Building Computational Thinking in Museum Exhibits

CLARA CAHILL

## National Communication Association

Improving Public Deliberation through the Citizens' Initiative Review

Prof. JOHN GASTIL and Prof. KATIE KNOBLOCH  
The Pennsylvania State University and Colorado State University

## NC State University

Dielectrics and Piezoelectrics

Dr. ELIZABETH C. DICKEY

## Northwestern University

Rat Whiskers: Novel Engineering Applications and Insights for Neuroscience

Prof. MITRA HARTMANN

## The Ohio State University

Growing STEM Talent at a Large Scale

Prof. DAVID TOMASKO and JASMINE PETERS

## Oregon State University

Sustainable Materials Chemistry and Physics Education Reform

Prof. DOUGLAS KESZLER, Prof. JANET TATE and JENN AMADOR

## Princeton University

High-Assurance Cloud Services

Prof. MICHAEL FREEDMAN

## Society for Industrial and Applied Mathematics

The Mathematics of Stem Cells, Drug Resistance and Cancer

Prof. DORON LEVY  
University of Maryland

## Society for Research in Child Development

Parenting for STEM Success in African American Families

Prof. BETH KURTZ-COSTES and Prof. STEPHANIE ROWLEY  
University of North Carolina, Chapel Hill and University of Michigan

## Tufts University

Engineering Solutions for Clean Water

Dr. KURT PENNELL and Dr. DANIELE LANTAGNE

## University of California

Shaping the Future of Innovation and Research

ROXANE COHEN SILVER, DAVID FELDMAN, ZACH REAGH and KRISTIN ROHER  
University of California, Irvine

Into the Loop Alliance: Exploring Computer Science

JANE MARGOLIS  
University of California, Los Angeles

Fire, Erosion and the Global Carbon Cycle

ASMERET ASEFAW BERHE  
University of California, Merced

Improving Success of First-Generation, Ethnically Diverse Students in STEM Majors

MICHAEL MCKIBBEN  
University of California, Riverside

The Role of the Loss of Anti-Oxidants in Developing Liver Tumors

BRITTANY ANDERTON  
University of California, San Francisco

## University of Colorado, Boulder

CCAT Telescope: Research, Technology and Training

Prof. JASON GLENN

## University of Illinois at Chicago

Faces of STEM Education & Research at UIC

Prof. MITRA DUTTA

## University of New Mexico

An HSI Doing World Class Research and Education in Micro-Engineered Materials

CARLOS ROMERO

## West Virginia University

The Pulsar Content of Globular Clusters

Dr. DUNCAN LORIMER

