



Showcasing Research and Education Projects Supported by the National Science Foundation

The Coalition for National Science Funding (CNSF) is an alliance of over 140 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 Geographers
- American Association of Physics Teachers
- American Astronomical Society
- American Chemical Society
- American Educational Research Association
- American Geosciences Institute
- American Geophysical Union
- American Institute for Medical and Biological Engineering
- American Institute of Biological Sciences
- American Institute of Physics
- American Mathematical Society
- American Physical Society
- American Physiological Society
- American Political Science Association
- American Psychological Association
- American Society for Biochemistry & 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
- American Society of Plant Biologists
- American Sociological Association
- American Statistical Association
- Arafune Government Relations Group
- Archaeological Institute of America
- 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 Medical Colleges
- Association of American Universities
- Association of Public and Land-grant Universities
- Association of Research Libraries
- Association of Science-Technology Centers
- Association of Universities for Research in Astronomy, Inc. (AURA)
- The Bagley Group, LLC
- Biophysical Society
- Boise State University
- Boston University
- Brandeis University
- Brown University
- California Institute of Technology
- Cavarocchi Ruscio Dennis Associates, LLC
- Coalition for Academic Scientific Computation
- Coastal and Estuarine Research Federation
- 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
- Drinker Biddle & Reath LLP
- Duke University
- Earthquake Engineering Research Institute
- Eastman Chemical Company
- Ecological Society of America
- Entomological Society of America
- Federation of American Societies for Experimental Biology
- Federation of Associations in Behavioral & Brain Sciences
- Florida State University
- 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
- National Association of Marine Laboratories (NAML)
- National Communication Association
- National Council for Science and the Environment
- National Ground Water Association
- National Postdoctoral Association
- National Science Teachers Association
- New Mexico Optics Industry Association
- North Carolina State University
- Northern Illinois University
- Northwestern University
- The Ohio State University
- The Optical Society
- Oregon State University
- Ornithological Council
- Pennsylvania State University
- Population Association of America/Association of Population Centers
- Princeton University
- The PsysIP Project
- Rensselaer Polytechnic Institute
- Research!America
- Rutgers, The State University of New Jersey
- SAGE Publications Inc.
- Seismological Society of America
- Semiconductor Industry Association
- Society for American Archaeology
- Society for Historical Archaeology
- Society for Industrial and Applied Mathematics
- Society for Industrial and Organizational Psychology
- Society for Neuroscience
- Society for Research in Child Development
- Society for the Psychological Study of Social Issues (SPSSI)
- 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
- UNAVCO Corporation for Atmospheric Research
- University of California
- University of Cincinnati
- University of Colorado, Boulder
- University of Florida
- University of Illinois
- University of Michigan
- University of Missouri System
- University of New Mexico
- University of New Orleans
- University of Pennsylvania
- University of South Carolina
- University of Wisconsin
- Vanderbilt University
- The George Washington University
- Washington Partners, LLC
- 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  
22ND ANNUAL EXHIBITION AND RECEPTION  
TUESDAY, APRIL 26, 2016  
RAYBURN HOUSE OFFICE BUILDING  
WASHINGTON, DC

- American Mathematical Society
- Consortium of Social Science Associations
- American Society of Plant Biologists
- Federation of Associations in Behavioral & Brain Sciences
- Princeton University

### CO-SPONSORS

Coalition for National Science Funding (CNSF)  
1527 Eighteenth Street, NW Washington, DC 20036  
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# EXHIBITORS 2016

## American Association for the Advancement of Science

Ancient History / Modern Destruction  
 SUSAN WOLFINBARGER

## American Astronomical Society

Astronomy at Columbia: Advancing Scientific Knowledge, Diversifying the Scientific Workforce  
 MARCEL AGÜEROS  
 Columbia University

## American Economic Association

The Future of Data for Social Science Research  
 BRUCE MEYER  
 University of Chicago

## American Educational Research Association

Games, Learners, and Innovations  
 SASHA BARAB  
 Arizona State University

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

Air Quality Health Impacts  
 WILMARIE MARRERO-ORTIZ  
 Texas A&M University

## American Mathematical Society

On the Movement of Cells, Birds, Fish and Other Agents: Mathematical Modeling in Biology and Ecology  
 KONSTANTINA TRIVISA  
 University of Maryland, Institute for Physical Science and Technology

## American Physiological Society/FASEB

Naturally Occurring Protection for the Heart and Brain in Diving Seals  
 ALLYSON HINDLE  
 Massachusetts General Hospital and Harvard Medical School

## American Political Science Association

Modernizing Political Event Data for Big Data Social Science Research  
 PATRICK T. BRANDT and JAVIER OSORIO  
 The University of Texas, Dallas and John Jay College of Criminal Justice, CUNY

## American Psychological Association

## American Society for Microbiology

KATHLEEN ALEXANDER  
 Virginia Polytechnic Institute and State University, Department of Fish and Wildlife Conservation

## American Society of Plant Biologists

Understanding and Manipulating Plant Metabolism for Agriculture, Energy, and Health  
 RICHARD A. DIXON  
 University of North Texas

## Association of Science-Technology Centers/CAISE

Science Across Settings: Resources Connecting Science Researchers and Educators  
 MARGARET GLASS, JAMES BELL and PATTY MONTANO

## Coalition for Academic Scientific Computation

Transforming Research, Transforming Our World

## Computing Research Association

Visual Shopping Assistance for Persons with Visual Impairment  
 VIJAYKRISHNAN NARAYANAN, PETER ZIENTARA, IKENNA OKAFOR, GUS SMITH, KEVIN IRICK and LAURENT ITTI  
 Pennsylvania State University and University of Southern California

## Cornell University

Training a New Generation of Synchrotron Scientists

## Council on Undergraduate Research

NSF Research Experiences for Undergraduates (REU): Generating Discoveries and Preparing the Future STEM Workforce  
 ELIZABETH L. AMBOS

## Ecological Society of America

Next Generation Ecologists  
 BRIAN KASTL, KRISTEN LEAR, MATTHEW PINTAR, TIMOTHY TREUER, JESSICA NICOLE WELCH and SAMANTHA LYNN WERNER  
 University of California, University of Georgia, University of Mississippi, Princeton University, University of Tennessee and University of New Hampshire

## Entomological Society of America

Urban Disamenities and Pests: Mosquitoes in Our Diverse Communities  
 PAUL LEISNHAM  
 University of Maryland, College Park

## Genetics Society of America

The Mystery and Beauty of Cell Division  
 AHNA SKOP  
 University of Wisconsin

## Human Factors and Ergonomics Society

Empowering, not Outsourcing, Humans with Automation  
 ALEX KIRLIK  
 University of Illinois at Urbana-Champaign

## IRIS Consortium

Seismological Facilities for the Advancement of Geoscience and EarthScope  
 BOB DETRICK

## Massachusetts Institute of Technology (MIT)

Listening to Einstein's Universe with LIGO  
 MARTIN HENDRY  
 LIGO Scientific Collaboration

## Michigan State University/University of Michigan

Transforming and Modernizing Undergraduate Physics Education (MSU) REBUILDing STEM Education for the 21st Century (University of Michigan)  
 MARCOS (DANNY) CABALLERO  
 Michigan State University

## National Communication Association

Spear Phishing: The Single Biggest Threat to Cybersecurity and How We Can Combat It  
 ARUN VISHWANATH  
 University at Buffalo

## Northern Illinois University

The Role of Computer Science in Developing an Urban-Scale Instrument for Interdisciplinary Research  
 MICHAEL PAPKA

## Population Association of America

## Princeton University

Enabling Diagnosis and Treatment through Fluorination  
 ABIGAIL DOYLE

## Society for Industrial and Organizational Psychology

Sticking with STEM: Gender Differences and Similarities in College and Workforce Settings  
 DEBRA MAJOR  
 Old Dominion University

## Society for Research in Child Development

Parents and Children Solving Science Problems Together  
 KATHERINE SHORT MEYERSON  
 University of Wisconsin, Oshkosh

## University of California

Augmented Reality Sandbox  
 S. GEOFFREY SCHLADOW and LOUISE KELLOGG  
 University of California, Davis

## Alternative Earths

TIMOTHY LYONS and STEPHANIE OLSON  
 University of California, Riverside

## Interactive Energy Atlas of Los Angeles County

STEPHANIE PINCETL  
 University of California, Los Angeles

## Rapid Assessment of Chemical Impacts on Humans and the Environment

SANGWON SUH  
 University of California, Santa Barbara

## Precipitation Estimation from Multi-Source Information Using Advanced Machine Learning

XIAOGANG GAO and ALEXANDER IHLER  
 University of California, Irvine

## RHONDA SHRADER, JAY JAMES and JEFF CROSBY

University of California, Berkeley

## University of Colorado Boulder

Network of STEM Education Centers (NSEC): The Network for Supporting the Transformation of Undergraduate STEM Education  
 NOAH FINKELSTEIN

## University of Illinois at Chicago

NSF CAREER Awards Leading to Innovation at UIC  
 MITRA DUTTA, TOM ROYSTON and YING LIU

## West Virginia University

Dawn of Gravitational Wave Astrophysics  
 SEAN MCWILLIAMS

