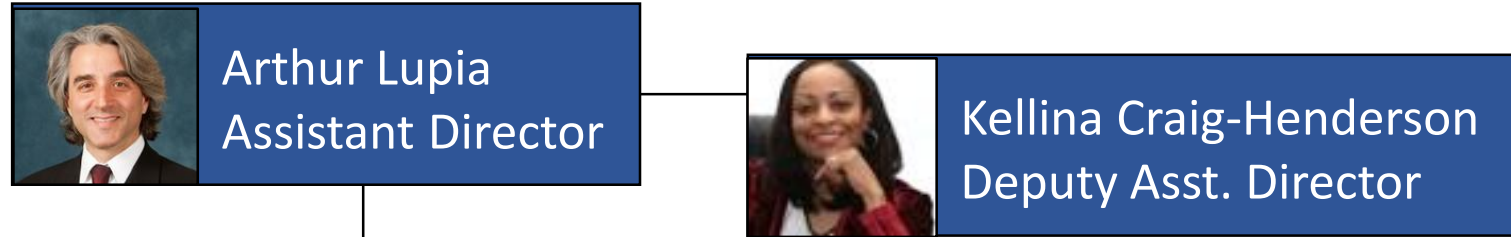


# **NSF Funding Opportunities: Methodology, Measurement, and Statistics Program Harnessing the Data Revolution**

**Cheryl L Eavey  
MMS Program Director  
JSM, Denver, CO 2019**



# SBE Organizational Chart



**Behavioral and  
Cognitive Sciences**

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*Marc Sebrechts  
Division Director*

**Social and Economic  
Sciences**

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*Alan Tompkins  
Acting Division Director*

**Natl. Center for  
Science and  
Engineering Statistics**

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*Emilda Rivers  
Division Director*

**Office of  
Multidisciplinary  
Activities**

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# SBE Programs

## Behavioral and Cognitive Sciences

- Archaeology
- Bio. Anthropology
- Cult. Anthropology
- Geo. & Spatial Sci.
- Social Psych.
- Cog. Neuroscience
- Develop. Sci.
- Sci. of Learning
- Linguistics
- Percept., Action, & Cog.
- Doc. Endang. Lang.

## Social and Economic Sciences

- Economics
- Political Sci.
- Sociology
- Decision, Risk, & Mgmt. Sci.
- Law & Social Sci.
- **Methodology, Measurement, and Statistics**
- Sci. of Organizations
- Sci., Tech., & Society

## Natl. Center for Science and Engineering Statistics

- Measuring
  - The Nation's Investment in R&D
  - Educ. & Workforce Character. of Sci. and Eng.
- Developing Indicators of Nation's Compet. & Innov. Cap.
- Supporting Rsrch. On S&T Enterprise

## Office of Multidisciplinary Activities

- Research Exp. for Undergrad. Sites
- SBE Postdoc. Rsrch. Fellowships
- Science of Science and Innov. Policy



# Methodology, Measurement, and Statistics (MMS) Program

- The Methodology, Measurement, and Statistics (MMS) Program is an interdisciplinary program in the Directorate for Social, Behavioral, and Economic Sciences that supports the development of innovative analytical and statistical methods and models for those sciences.
- MMS seeks proposals that are methodologically innovative, grounded in theory, and have potential utility for multiple fields within the social and behavioral sciences.
- Funding Mechanisms:
  - Regular Research Proposals
  - Early Career Development (CAREER) proposals
  - Proposals for conferences, workshop, and community-development activities
  - Doctoral Dissertation Research Improvement (DDRI) proposals



# Doctoral Dissertation Research Improvement Proposals

- Supported by MMS in an effort to improve the quality of doctoral dissertation research.
- Funds are to be used for expenses associated with the conduct of the research that normally are not underwritten by the home institution.
- The advisor serves as principal investigator; the student serves as co-principal investigator.
- It is expected that the intellectual input to the proposed research be predominantly that of the student.
- The maximum for a DDRI award from MMS is \$18,000 (includes both direct and indirect costs).



# Partnership with Federal Statistical Agencies

- As part of its larger portfolio, the MMS Program partners with a consortium of federal statistical agencies to support research proposals that further the development of new and innovative approaches to surveys and to the analysis of survey data.
- Potential topics for consideration include:
  - Measurement issues
  - Questionnaire design
  - Survey Design and Technology
  - Analytical Issues (e.g., uses of administrative data or paradata)
  - Small Area Estimation
  - Data Improvement (e.g., disclosure limitation methods)
  - Data Dissemination and Visualization



# For Additional Information

- **MMS Home Page**

- [https://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=5421](https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5421)

- **MMS Solicitation**

- NSF 19-575
- [https://www.nsf.gov/publications/pub\\_summ.jsp?WT.z\\_pims\\_id=5421&ods\\_key=nsf19575](https://www.nsf.gov/publications/pub_summ.jsp?WT.z_pims_id=5421&ods_key=nsf19575)

- **MMS Program Officer**

- Cheryl L. Eavey
- 703-292-7269
- [ceavey@nsf.gov](mailto:ceavey@nsf.gov)



# NSF's 10 Big Ideas | Research Ideas

MATHEMATICAL STATISTICAL COMPUTATIONAL FOUNDATIONS  
ANALYTICS DATA SCIENCE  
HARNESSING THE DATA REVOLUTION  
FUNDAMENTAL RESEARCH IN SCIENCE  
MACHINE LEARNING  
RESEARCH DATA CYBERINFRASTRUCTURE  
MODELING OF DATA MINING  
CYBERSECURITY DOMAIN SCIENCE CHALLENGES  
SYSTEMS AND INFRASTRUCTURE  
INTERNET OF THINGS  
STATISTICS  
INFORMATION SCIENCE  
HUMAN DATA INTERFACE

## Harnessing the Data Revolution

## The Future of Work at the Human-Technology Frontier



## Navigating the New Arctic



## The Quantum Leap: Leading the Next Quantum Revolution

## Understanding the Rules of Life: Predicting Phenotype



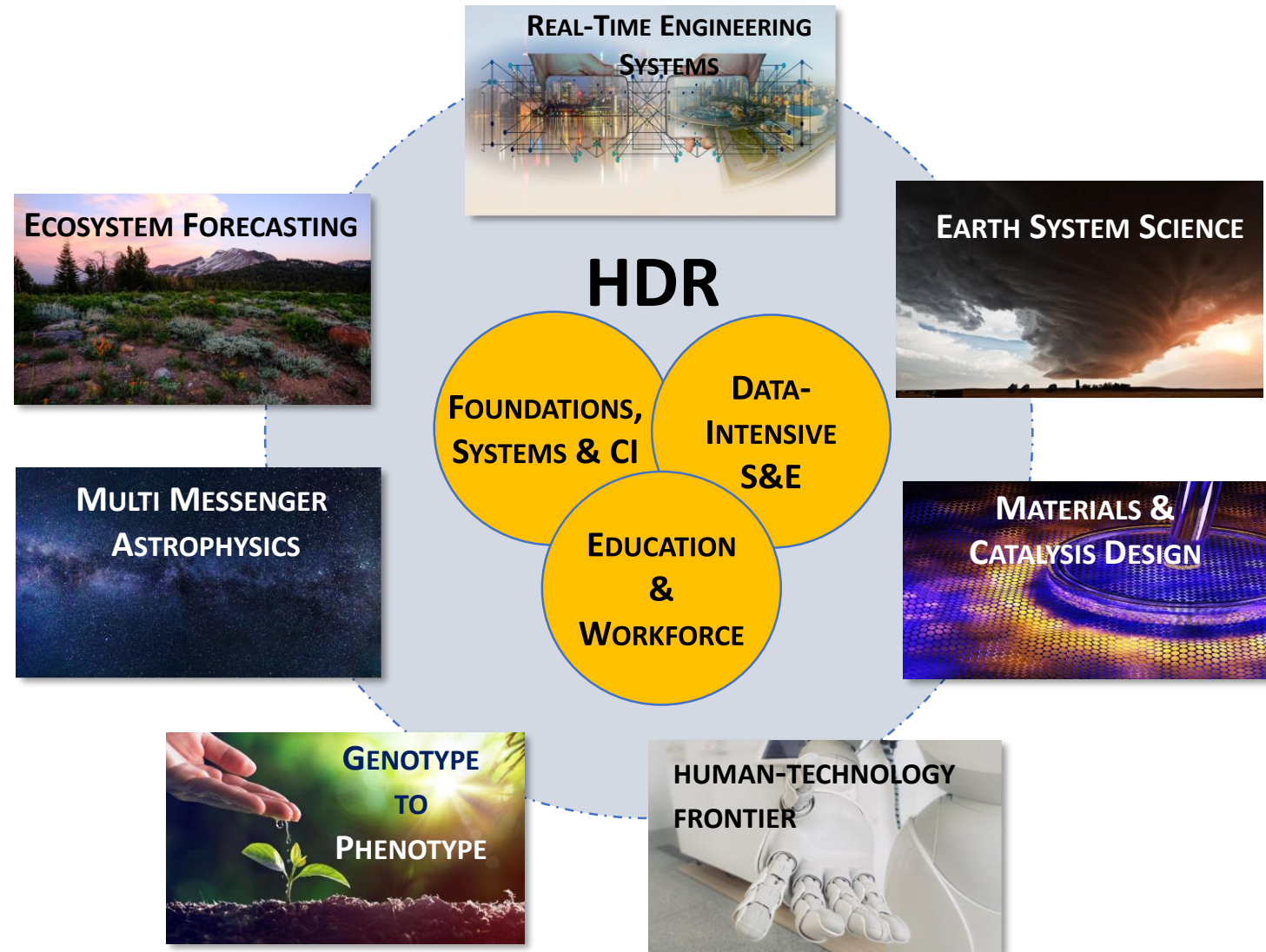
## Windows on the Universe: The Era of Multi-messenger Astrophysics





# HARNESSING THE DATA REVOLUTION VISION

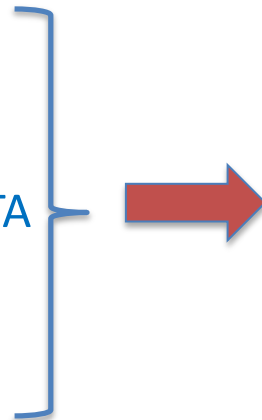
*HDR will enable new modes of data-driven discovery that will allow fundamental questions to be asked and answered at the frontiers of science and engineering*



# HARNESSING THE DATA REVOLUTION (HDR): OVERVIEW

## COMPONENTS OF THE HDR VISION

- **FOUNDATIONS OF DATA SCIENCE**
- **EDUCATION AND WORKFORCE DEVELOPMENT**
- **DATA-INTENSIVE SCIENCE AND ENGINEERING**
  - ALGORITHMS AND SYSTEMS FOR DATA SCIENCE
  - DATA CYBERINFRASTRUCTURE



## HDR PROGRAMMATICS

HDR TRIPODS (FY19)

DATA SCIENCE CORPS (FY19)

### HDR INSTITUTES

— CONCEPTUALIZATION (FY19)

- IDEAS LABS

- FRAMEWORKS

— COORDINATION (FY20)

— CONVERGENCE (FY21)



# HDR Institutes Roadmap

## CONCEPTUALIZATION

AWARDS IN SEPTEMBER  
2019

NEW TEAMS  
FORMED VIA  
IDEAS LABS

EXISTING TEAMS  
PURSUE  
FRAMEWORKS

AWARDS IN SEPTEMBER  
2019

FY21

OPEN COMPETITION FOR  
4-5 INSTITUTES THAT  
BRING TOGETHER MULTIPLE  
SCIENCE AND ENGINEERING  
COMMUNITIES

FY20

ONE COORDINATION AWARD TO FACILITATE  
COMMUNICATION AND COORDINATION

