



NSF Funding Opportunities: Statistics & Data Science

October 22, 2021

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Division of Mathematical Sciences
National Science Foundation

NSF in a Nutshell

- ▶ Independent agency to support **basic** research & education
- ▶ Grant mechanism in two forms:
 - **Unsolicited, curiosity driven** (the majority of the \$)
 - **Solicited, more focused**
- ▶ All fields of Science/engineering
- ▶ Discipline-based structure, some cross-disciplinary



DIRECTORATE

MPS

MATHEMATICAL
AND PHYSICAL
SCIENCES

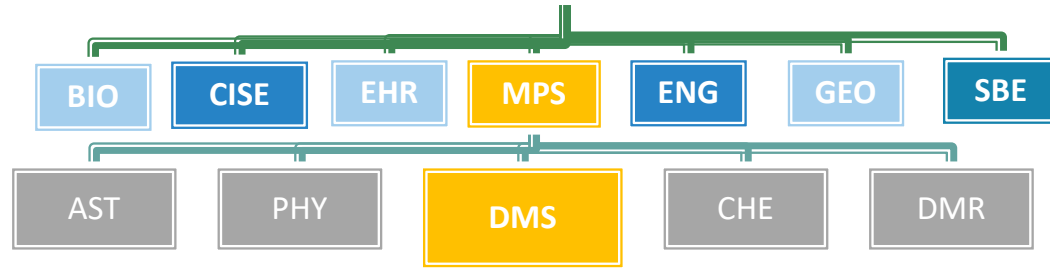
DIVISION

DMS

DIVISION OF
MATHEMATICAL
SCIENCES

PROGRAM

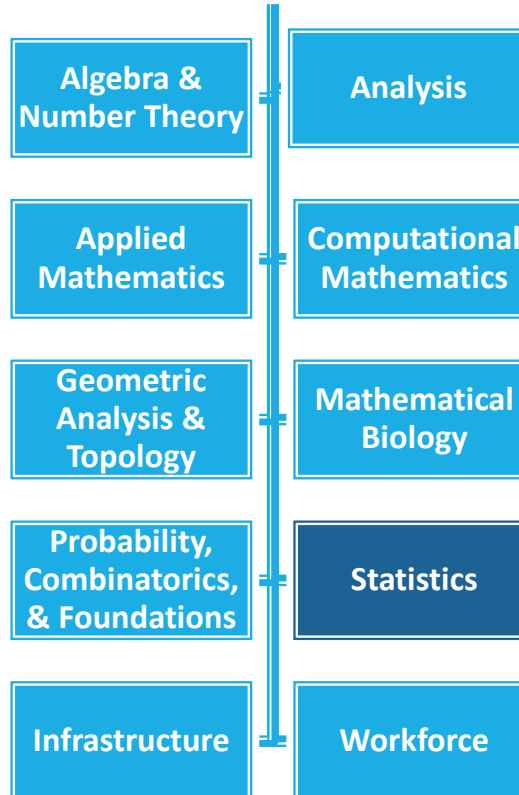
NSF ORGANIZATIONAL CHART



Juan C. Meza
Division
Director



Junping Wang
Deputy
Division Director



Statistics Program

- ▶ Support research in statistical theory & methods, including research for applications to any domain of science and engineering
- ▶ Regular Statistics Program: December 1–15, 2021
- ▶ Faculty Early Career Development Program (CAREER, July)
- ▶ **Conferences and Workshops in the Mathematical Sciences**: anytime with sufficient lead time (>6 months)



Statistics Program Officers



Nandini
Kannan
(On Leave)



Edsel Pena
(rotator)



Gabor
Szekely
(permanent)



Huixia
Judy Wang
(rotator)

DMS Special Research Programs

- ▶ **DMS/NIGMS** (Interface of the Biological and Mathematical Sciences)
 - Solicitation: <https://www.nsf.gov/pubs/2020/nsf20575/nsf20575.htm>
 - September 1–19, 2021
- ▶ **CDS&E–MSS** (computational and massive-data challenges presented to scientific and engineering communities)
 - September 1–15, 2021
- ▶ **ATD** (Algorithms for Threat Detection)
 - <https://www.nsf.gov/pubs/2020/nsf20531/nsf20531.htm>
 - February 17, 2021
- ▶ **FRGMS** (Focused Research Groups in the Mathematical Sciences)
 - <https://www.nsf.gov/pubs/2016/nsf16577/nsf16577.htm>
 - Second Wednesday in September



Other Special Research Programs

- [CRCNS](#) (Collaborative Research in Computational Neuroscience), NSF 20-609, **Nov 23, 2021**
- [SCH](#) (Smart Health and Biomedical Research in the Era of Artificial Intelligence and Advanced Data Science), NSF 21-530, **Nov 10, 2021**
- [SaTC \(Secure & Trustworthy Cyberspace\)](#), NSF 22-517, **Nov 17, 2021**
- [DMREF](#) (Designing Materials to Revolutionize and Engineer our Future)
- [DCL NSF 21-124](#): Critical Aspects of Sustainability (CAS): Innovative Solutions to Climate Change
- [HDR TRIPODS Phase II](#), NSF 21-604,
LOI: Nov 1-16, 2021; Proposal: Jan 4-18, 2022
- [AMPS \(Algorithms for Modern Power Systems\)](#)



Other Special Research Programs

- **LEAPS–MPS** (Launching Early–Career Academic Pathways in the Mathematical and Physical Sciences): **Jan 7, 2022**
<https://www.nsf.gov/pubs/2022/nsf22503/nsf22503.htm>
- **MODULUS** (Models for Uncovering Rules and Unexpected Phenomena in Biological Systems):
<https://www.nsf.gov/pubs/2021/nsf21069/nsf21069.jsp>
- **EEID** (Ecology and Evolution of Infectious Diseases):
Nov 17, 2021 (for FY 2021) . Third Wednesday in Nov, Annually Thereafter
<https://beta.nsf.gov/funding/opportunities/ecology-and-evolution-infectious-diseases-eeid>
- **NITMB** (NSF 21–607, National Institute for Theory and Mathematics in Biology): December 01, 2021 (Preliminary). **July 18, 2022** (Target data for full proposal)
- **More at:** <https://www.nsf.gov/funding/programs.jsp?org=DMS>



MMS Program in SBE/SES

- [Methodology, Measurement, and Statistics](#) (MMS) program: 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**.
- ▶ https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5421&org=SES&from=home
- ▶ **Deadlines: August 26, 2021, January 27, 2022**
- ▶ Program Director: Cheryl L. Eavey (ceavey@nsf.gov)



Training & Career Development

- ▶ **GRFP** (Graduate Research Fellowship Program)
 - <https://www.nsf.gov/pubs/2021/nsf21602/nsf21602.htm>; **October 22, 2021**
- ▶ **MSPRF** (Mathematical Sciences Postdoctoral Research Fellowships)
 - <https://www.nsf.gov/pubs/2016/nsf16558/nsf16558.htm>; **Third Wednesday in October**
- ▶ **MSGI** (NSF Mathematical Sciences Graduate Internship)
 - For math science doctoral students to participate in internships at federal national laboratories, industry and other approved facilities
 - <https://orise.orau.gov/nsf-msgi>; **January 31**
- ▶ **MPS-ASCEND**: (MPS Ascending Postdoctoral Research Fellowships), **Jan 6, 2022**
- ▶ **Others**: RTG (Research Training Groups in the Mathematical Sciences); REU (Research Experiences for Undergraduates) Sites



Community Resources

- ▶ **Mathematical Sciences Institutes** (www.mathinstitutes.org)
 - [IMSI \(Institute for Mathematical and Statistical Innovation\)](#)
- ▶ **NSF TRIPODS Institutes:** <https://nsf-tripods.org/>
 - [Foundations of Data Science Institute](#)
 - [Institute for Foundations of Data Science](#)
- ▶ **NSF-SF MoDL centers**
 - [THEORINET](#)
 - [The Collaboration on the Theoretical Foundations of Deep Learning](#)
- ▶ **AI Institutes**, e.g.
 - [Institutes for Foundations of ML \(UT Austin\)](#)
 - [AI Institutes in Dynamic Systems \(U Washington\)](#)
- ▶ **HDR Institutes**



Final Remarks

- Check the published abstracts on the NSF website: <http://www.nsf.gov/awardsearch>
- Volunteer as a reviewer! Email the PD or visit <https://www.nsf.gov/additional-resources.jsp?org=DMS>
- Subscribe to DMS listserv: <https://www.nsf.gov/mps/dms/about.jsp>
- Talk to Program Officers
 - JSM: DMS Meet & Greet; Speed Coaching
 - DMS office hours: <https://www.nsf.gov/events/index.jsp?org=DMS>



QUESTIONS?

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National Science Foundation

