

# **Division of Mathematical Sciences (DMS)**

## **Virtual Office Hour**

**Date: April 23, 2021**

Welcome to the DMS Virtual Office Hour. We will begin soon.

Please submit questions via the Q&A box  
available to you on Zoom.



# Division of Mathematical Sciences (DMS)

## Welcome to our Virtual Office Hours!

Program Directors in attendance today

- Juan C. Meza (Division Director)
- Yong Zeng, Malgo Peszynska, Andrew Pollington (CDS&E-MSS)
- Pawel Hitczenko, Tomek Bartoszynski (Probability)
- Swatee Naik, Michelle Manes, Pawel Hitczenko, Eun Heui Kim (RTG)
- Moderators: Chris Stark, Michelle Manes, Malgo Peszynska
- Special guest: Kathleen McCloud (LEAPS, Ascend)

### Subscribe to DMSNEWS:

Send email to [listserv@listserv.nsf.gov](mailto:listserv@listserv.nsf.gov)  
In the body of the message, put the following command:  
subscribe dmsnews [your name]

### Suggest a topic for future VOH:

Send email to [dms-voh@nsf.gov](mailto:dms-voh@nsf.gov)



# Division of Mathematical Sciences (DMS)

## Questions during VOH:

- Submit your questions via the Q&A box
  - Questions can be submitted anonymously.
  - We will focus on questions of interest to a wide audience.
  - For specific questions about a particular project, contact a cognizant Program Officer.
- For recently asked questions/copy of slides, see <https://www.nsf.gov/mps/dms/presentations.jsp>
- Next DMS Virtual Office Hour: Friday, May 14, 1PM EDT
  - Topics include: MSPRF and Ascend postdocs, LEAPS, Tips for writing a compelling proposal.
  - Questions can be submitted in advance on the registration form.



# Division of Mathematical Sciences (DMS)

## Virtual Office Hour Topics today:

- Update from the Division Director.
- Computational and Data-Enabled Science and Engineering in Mathematical and Statistical Sciences (CDS&E-MSS).  
[https://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=504687](https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=504687)
- Probability Program.  
[https://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=5555](https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5555)
- Research Training Groups in the Mathematical Sciences (RTG).  
[https://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=5732](https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5732)
- Q&A



# Division of Mathematical Sciences (DMS)

## Opportunities and upcoming deadlines:

- Funding opportunities

<https://www.nsf.gov/funding/programs.jsp?org=DMS>

- Upcoming deadlines link

[https://www.nsf.gov/funding/pgm\\_list.jsp?ord=date&org=NSF&sel\\_org=DMS&status=1](https://www.nsf.gov/funding/pgm_list.jsp?ord=date&org=NSF&sel_org=DMS&status=1)

- Upcoming due dates

- NSF-CBMS Regional Research Conferences in the Mathematical Sciences: April 30
- Infrastructure : May 11
- SCALE MoDL: May 12
- RTG: June 1
- LEAPS-MPS: June 14
- MPS-Ascend: June 15



# DMS Division Director Update

## April 23, 2021

- New funding opportunity: **MPS-Ascend postdoc**  
[https://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=505879](https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=505879)
- New funding opportunity: **LEAPS-MPS research initiation grants**  
[https://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=505892](https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=505892)
- Other DMS news



# Computational and Data-Enabled Science and Engineering in Mathematical and Statistical Sciences (CDS&E-MSS)

- **Website:**

[https://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=504687&org=NSF](https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=504687&org=NSF)

- **Program Officers for DMS:**

Yong Zeng (yzeng@nsf.gov)

Malgorzata Peszynska (mpeszyns@nsf.gov)

Andrew D. Pollington (adpollin@nsf.gov)

- **Submission Deadline:** September 15, 2021 (**Solicitation NSF 20-8069**)

**Submission Window:** September 1 – September 15, 2021



# Synopsis of CDS&E-MSS Solicitation

- The program accepts proposals that engage with the mathematical and statistical **challenges** presented by
  - (1) the ever-expanding role of **computational experimentation, modeling, and simulation**
  - (2) the explosion in production and analysis of digital **data from experimental and observational sources**
- The **goal** of the program is to promote
  - the **creation and development** of the next generation of mathematical and statistical **software tools**
  - **the theory** underpinning those tools, that will be **essential for addressing these challenges**.
- The research supported by the program will **aim to advance mathematics or statistics in a significant way** and will **address computational or big-data challenges**.





# Three Important Factors in CDS&E-MSS and Two Related Programs

- Important factors:
  - one or more **challenges** involving **computation** or **data**
  - the creation and development of **software tools** (including database; especially, software designed to develop tools for mathematical research)
  - the **theory** that will be **essential for addressing these challenges** and **advance mathematics or statistics in a significant way**
- MUST INCLUDE a PI or co-PI who is a researcher in an area supported by DMS
- WELCOME submission that include **multidisciplinary collaborations** or provide **opportunities for training** through research involvement of junior DMS researchers
- For topics covered by the Program, see “**What Has Been Funded**” on the website
- A part of foundation-wise [CDS&E Program](#), and a related program on [Cyberinfrastructure for Sustained Scientific Innovation \(CSSI\)](#) for implementing existing methods into robust cyberinfrastructure.



# PROBABILITY PROGRAM Overview

- **Website:**

[https://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=5555](https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5555)

- **Program Officers for DMS:**

Tomek Bartoszynski (tbartosz@nsf.gov)

Pawel Hitczenko (phitczen@nsf.gov)

- **Submission Window:** September 10-27, 2021 (NSF PD 18-1263),  
September 10-25 annually thereafter.



# PROBABILITY PROGRAM

## Program focus

- **Key focus** is on regular proposals in theory and applications of probability and stochastic processes.
- It is important that the proposed research **contributes significantly to the development of probability theory**. Proposals whose goal is to apply existing results (or their minor variations) in probability to other areas are better suited for programs that support these areas.
- The program has a vested interest in the CAREER program, RTG program, FRG program, and regularly provides co-funding to proposals in other disciplines that have strong probabilistic component.



# PROBABILITY PROGRAM

## Program focus + current PIs

- During non-COVID times the program reserves a significant budget for **conference and workshop support** (solicitation 21-541) in accordance with priorities set out in the document:  
[https://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=11701](https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=11701)
- For current PIs: the program operates under maximum flexibility due to COVID (no-cost extensions, re-budgeting requests,...)
- For current PIs: there is always an option to apply for supplements for REU students and/or graduate students. Please contact a Program Officer before submitting such supplement request.



# Research Training Groups in the Mathematical Sciences (RTG)

- **Website:**

[https://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=5732](https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5732)

- **Program Officers for DMS:**

Swatee Naik ([snaik@nsf.gov](mailto:snaik@nsf.gov))

Pawel Hitczenko ([phitczen@nsf.gov](mailto:phitczen@nsf.gov))

Eun Heui Kim ([eukim@nsf.gov](mailto:eukim@nsf.gov))

Michelle Manes ([mmanes@nsf.gov](mailto:mmanes@nsf.gov))

- **Submission Deadline:** June 1, 2021 (NSF 20-608)

First Tuesday in June, annually thereafter



# Research Training Groups (RTG) Program Overview

**Program goal:** increase the number of well-prepared U.S. citizens, nationals, and permanent residents who pursue careers in the mathematical sciences, be they in academia, government, or industry.

## **Program highlights:**

- Three to Five-year awards, up to \$500K/year.
- Limited faculty salary.
- Travel, conference, consultant support.
- **Vertical integration:** undergraduate research, graduate traineeships, 3-yr post-doc positions. Funded trainees have citizenship requirements.
- Integration of research, education, professional development.
- Recruitment and retention, assessment.
- Post-RTG sustainability plan



# Research Training Groups (RTG) New Solicitation

## New solicitation:

<https://www.nsf.gov/pubs/2020/nsf20608/nsf20608.htm>

## Some changes:

- Graduate students: professional training including teaching **or** industry **or** lab.
- Post-doc Ph.D. year requirement is relaxed.
- Clarifies that all PAPPG requirements hold.



# Virtual Office Hour: Questions from registration

1. General questions:
  - A. My colleague got an email about the availability of supplementary funding, but I did not. Can you clarify who is eligible, what is covered, and how to apply?
  - B. Will the LEAPS and Ascend programs continue beyond this year, or are they just a response to COVID?
2. CDS&E program:
  - A. What is the difference between the CDS&E-MSS program and the multi-division CDS&E solicitation?
  - B. What is the difference between CDS&E-MSS and Cyberinfrastructure for Sustained Scientific Innovation (CSSI)?
  - C. How much funding do CDS&E-MSS budgets tend to include for hardware or cloud access?
  - D. Is this an appropriate program for projects in experimental mathematics?
3. Probability program:
  - A. Where should a proposal in probabilistic combinatorics be submitted? How about statistical physics?
4. RTG program:
  - A. Why are there both 3-year and 5-year grants? Is one more common?
  - B. Should all PIs be mathematicians? Can early career faculty serve as PI?
  - C. Can an institution with a master's (but no Ph.D.) program apply?
  - D. Are RTG proposals reviewed by a panel? Who are the typical panelists?
  - E. What do reviewers look for in terms of "vertical integration"?





# Division of Mathematical Sciences (DMS)

## Virtual Office Hour: Thank you

- For slides and recently asked questions, see <https://www.nsf.gov/mps/dms/presentations.jsp>
- Submit questions/suggestions to [DMS-VOH@nsf.gov](mailto:DMS-VOH@nsf.gov)
- Submit questions through event registration form
- For specific questions about your project, contact a Program Officer
- For future Virtual Office Hour topics, see [https://www.nsf.gov/events/index.jsp?org=NSF&event\\_type=12&orgToSearch=MPS&month=&year=2021](https://www.nsf.gov/events/index.jsp?org=NSF&event_type=12&orgToSearch=MPS&month=&year=2021)
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