

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

## **Virtual Office Hour**

**Date: July 22, 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)
- Stefaan De Winter (Combinatorics)
- Junping Wang and Zhilan Feng (Mathematical Biology)
- Pedro Embid, Matt Douglass, and Stefaan De Winter (Focused Research Groups)
- Moderators: Chris Stark, Malgo Peszynska, Constanze Liaw, Michelle Manes

### 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: Thursday, August 19 at 3:30PM EDT
  - Topics include: CDS&E, Algebra & Number Theory, Tips for writing compelling proposals.
  - Questions can be submitted in advance on the registration form.



# Division of Mathematical Sciences (DMS)

## Opportunities and upcoming deadlines:

- Upcoming events

<https://www.nsf.gov/events/index.jsp?org=DMS>

- Convergence Accelerator Expo 2021: July 28, 29

- 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)

- ADVANCE: Organizational Change for Gender Equity in STEM Academic Professions (ADVANCE): Letter of Intent August 2, 2021; Full Proposal August 6, 2021.
- Research Experiences for Undergraduates (REU) : August 25
- Mathematical Biology: September 6
- Focused Research Groups in the Mathematical Sciences (FRGMS): September 8



# Division of Mathematical Sciences (DMS)

## Virtual Office Hour Topics today:

- Update from the Division Director.
- Combinatorics Program.  
[https://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=503570](https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=503570)
- Mathematical Biology Program.  
[https://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=5690](https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5690)
- Focused Research Groups in the Mathematical Sciences.  
[https://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=5671](https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5671)
- Q&A.



# Division of Mathematical Sciences (DMS)

## Update – July 22, 2021

- General Update
- MPS Advisory Committee  
<https://www.nsf.gov/mps/advisory.jsp>



# MPS Young Investigator Workshop

- **Goal:** to provide prospective Principal Investigators in MPS with
  - valuable information and advice on the policies, procedures, and opportunities available at NSF
  - direct experience of the full panel review processes.
- The workshop will take place virtually on **October 7-8, 2021.**
- Applications need to be submitted at <https://reg.conferences.dce.ufl.edu/physics>.
  - **Due date for applications is Sunday, August, 8, 2021 11:59p EST.**
  - You will be notified by the Workshop Organizers if you are selected to attend the workshop.
- Participants will be asked to write a short mock proposal, read and prepare reviews for several mock proposals, as well as participate in a mock panel as part of the workshop.



# COMBINATORICS PROGRAM Overview

- **Website:**

[https://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=503570](https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=503570)

- **Program Officers for DMS:**

Tomek Bartoszynski (tbartosz@nsf.gov)

Stefaan De Winter (sgdewint@nsf.gov)

- **Submission Target Date:** Fourth Tuesday in September (NSF PD 18-7970 )





# COMBINATORICS PROGRAM

## Program focus

- **Key focus is on regular proposals in broadly speaking**
  - 1) algebraic, geometric and enumerative combinatorics;
  - 2) probabilistic combinatorics, graph and design theory.
- **The program saw a recent increase in submitted proposals in the realm of operations research/combinatorial optimization. HOWEVER, the program will only entertain such proposals if there are clearly described applications to core combinatorics.**
- **The program has a vested interest in the CAREER program, RTG program, as well as the FRG program.**



# Mathematical Biology Overview

**Support research in areas of applied and computational mathematics with relevance to the biological sciences**

- **Proposal Submission Window:**

August 20, 2021 - September 6, 2021 (Apply to PD 18-7334)

- **Website:**

[https://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=5690](https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5690)

- **Program Officers:**

Junping Wang (jwang@nsf.gov)

Zhilan Feng (zfeng@nsf.gov)



# Mathematical Biology Funding Opportunities

- **Core Mathematical Biology Program:**

Successful projects are mathematically innovative and address challenging problems of interest to members of the biological community.

- **Joint DMS/NIGMS initiative:**

A program between DMS and the National Institute of General Medical Sciences (NIGMS) at NIH, which supports novel fundamental research in mathematics and statistics necessary to answer questions in the biological and biomedical sciences.

- **MODULUS: Models for Uncovering Rules and Unexpected Phenomena in Biological Systems**

A joint activity between DMS and the Division of Molecular and Cellular Biosciences (MCB) to support non-medically motivated interdisciplinary research. Successful projects should include innovative mathematical approaches that will drive biological discovery and push the boundaries of mathematics and biology.



# Mathematical Biology

## Other Funding Opportunities

- NSF 20-609, Collaborative Research in Computational Neuroscience (**CRCNS**):
  - ✓ November 23, 2021 (for FY 2022). [https://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=5147](https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5147)
- NSF 21-560, Understanding the Rules of Life: Emergent Networks (**URoL:EN**):
  - ✓ May 10, 2021 (for FY 2021). <https://www.nsf.gov/pubs/2021/nsf21560/nsf21560.htm>
- NSF 20-585, Ecology and Evolution of Infectious Diseases (**EEID**):
  - ✓ November 17, 2021 (for FY 2021) . Third Wednesday in Nov, Annually Thereafter
  - ✓ [https://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=5269](https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5269)
- NSF 21-530, Smart Health and Biomedical Research in the Era of Artificial Intelligence and Advanced Data Science (**SCH**)
  - ✓ November 10, 2021. [https://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=504739](https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=504739)



# Focused Research Groups in the Mathematical Sciences (FRGMS) - Overview

- **Solicitation:** **NSF 16-577**
- **Website:** [https://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=5671](https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5671)
- **Program Officers FY2021:**
  - Pedro F. Embid ([pembid@nsf.gov](mailto:pembid@nsf.gov))
  - Marian Bocea ([mbocea@nsf.gov](mailto:mbocea@nsf.gov))
  - Stefaan G. De Winter ([sgdewint@nsf.gov](mailto:sgdewint@nsf.gov))
  - James M Douglass ([MDOUGLAS@nsf.gov](mailto:MDOUGLAS@nsf.gov))
  - Yuliya Gorb ([ygorb@nsf.gov](mailto:ygorb@nsf.gov))
  - Krishnan Shankar ([kshankar@nsf.gov](mailto:kshankar@nsf.gov))
  - Gabor J. Szekely ([gszekely@nsf.gov](mailto:gszekely@nsf.gov))
  - Junping Wang ([jwang@nsf.gov](mailto:jwang@nsf.gov))
- **Submission Deadline:** **September 8, 2021** (2<sup>nd</sup> Wednesday in September)



# Focused Research Groups in the Mathematical Sciences (FRGMS) - Goals

- The program supports collaborative groups employing innovative methods to solve specific, major research challenges in the mathematical sciences.
- Projects should:
  - **Focus** on a significant and well-delineated major **research** challenge.
  - Respond to a pressing scientific **need** or take advantage of scientific **opportunities**.
  - Be timely, limited in duration, and substantial in their scope and impact.
  - Require the collective effort by a **group** of researchers.
  - Be **synergistic**: the combined efforts by the group is more than the sum of its parts.
- Things to keep in mind:
  - The research group must include **at least three** senior personnel or other professionals.
  - No Senior personnel can be PI or co-PI in more than one FRGMS proposal.
  - Additional outcomes, such as training of students and postdoctoral researchers, are beneficial but secondary to the research outcomes of the project.



# Focused Research Groups in the Mathematical Sciences (FRGMS) - Proposals

- Things to keep in mind (cont.)
  - Continuations of previously funded FRGMS projects are unlikely to be suitable for the FRGMS activity.
  - Proposals for work based on topics or approaches for which group members previously received FRGMS Group support will be returned without review.
- Departures from standard proposals:
  - Project description page limit increased to **twenty-three** pages:
  - Proposed Research, not to exceed **twenty** pages, **plus**
  - Management Plan, not to exceed **three** pages.
- Proposal preparation instructions must be meticulously followed. Please contact us if you have any questions. Non-compliant proposals risk being returned without review.



# Virtual Office Hour: Questions from registration

1. General topic:
  - A. If we wish to volunteer to be a panel reviewer for DMS, what is the correct procedure?
  - B. Can this webinar briefly address the CDS&E solicitation that is due September 2021?
  - C. What is the Waterman Award that was recently announced for Melanie Matchett Wood? How are people nominated for this award?
2. Combinatorics program:
  - A. Does Combinatorics make joint awards with programs in Computer Science?
  - B. My research is in combinatorial algebraic geometry. Should I apply to Combinatorics program or to Algebra & Number Theory? Can I send the same proposal to both programs?
  - C. How does the Combinatorics program organize reviewing of proposals?
3. Mathematical Biology program:
  - A. Does the Math Bio program handle proposals in epidemiology and infectious disease modeling?
  - B. Does the program make awards that support math/stat researchers and biological sciences researchers working together?
  - C. Does the program support lab or field work?
4. Focused Research Groups:
  - A. How many grants are awarded each year in the FRG program?
  - B. How are proposals from interdisciplinary groups reviewed?





# 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=DMS>
- Next DMS VOH: Thursday, August 19 at 3:30PM EDT
  - Topics include: CDS&E, Algebra & Number Theory, Tips for writing compelling proposals.
  - Questions can be submitted in advance on the registration form.

