

Division of Mathematical Sciences (DMS)

Virtual Office Hour

Date: April 15, 2022

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

Please submit questions via the Q&A box available in Zoom.

Moderators (VOH team): Jennifer Connell, **J. Matthew Douglass**,
Constanze Liaw, LaWanda Myers, Swatee Naik, Adriana Salerno, Chris
Stark, David Waldner

Be sure to stay for the Q&A session at the end of the meeting!



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Housekeeping

- Submit your questions via the Q&A box
 - Q&A session is held at the end of the office hour.
 - 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: May 12, 2:00-3:00 PM Eastern Time
 - Topics include: Structure of DMS, DMS Infrastructure Program.
 - Questions can be submitted in advance on the registration form.



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Today's Agenda

- Opportunities and upcoming deadlines
- CAREER – **Tomek Bartoszynski**
- REU Sites – **Adriana Salerno, Jeremy Tyson**
- FRGMS – **Stefaan De Winter**
- Q&A

Subscribe to DMSNEWS:

Send email to 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



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Opportunities and upcoming deadlines

- Upcoming events

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

- Funding opportunities

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

- Upcoming deadlines

https://www.nsf.gov/funding/pgm_list.jsp?ord=date&org=NSF&sel_org=DMS&status=1

- [NSF-CBMS Regional Research Conferences in the Mathematical Sciences](#): April 29
- [Algorithms for Modern Power Systems \(AMPS\)](#): May 11
- [Research Training Groups in the Mathematical Sciences \(RTG\)](#): June 7
- [NSF-Simons Collaboration on a National Institute for Theory and Mathematics in Biology \(NITMB\)](#): July 18



Division of Mathematical Sciences (DMS) CAREER Program

- **New solicitation:**

<https://www.nsf.gov/pubs/2022/nsf22586/nsf22586.htm?org=NSF>

- **Submission Deadline:** **July 27, 2022** (Wednesday) by 5PM submitter's local time
- **Webinars:** May 10 and May 16 at 2-4pm Eastern time; CAREER Submission Logistics Webinar on May 26, 2022
- CAREER submissions can come **only through** grants.gov or research.gov

The Faculty Early Career Development (CAREER) Program is a **Foundation-wide** activity that offers the National Science Foundation's **most prestigious awards** in support of early-career faculty who have the **potential to serve as academic role models in research and education** and to lead advances in the mission of their department or organization.



What should be in a CAREER proposal?

- Compelling research plan
 - Highly competitive, should match expectations in disciplinary programs
 - Appropriate scope for 5 years
 - Strike a balance between do-able research activities and more risky / ambitious pursuits
 - Keep reviewers in mind, often a broader panel than for standard research grants
- Innovative but do-able education plan (more on next slide)
- Plan for effective integration of research and education
- Letter from the department Chair:
 - Support for the PI's proposed research & education activities
 - Description of how the PI's goals and responsibilities mesh with the institution and department
 - Commitment to professional development of the PI (mentoring, whatever is needed to support the PI's efforts to integrate research & education)
 - Verification that the PI is eligible for the CAREER program.



CAREER Education Plan

- Can include:
 - Curriculum & pedagogy,
 - Outreach (K-12 students & teachers, or the general public),
 - Mentoring at any level (majors and non-majors),
 - Teacher preparation & professional development.
- Go beyond what is expected from any Assistant Professor in your field.
- Workload should not be unreasonable.
- Based on sound rationale: Informed by what has been successful in the past.
- Plan for assessing the success.



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Research Experiences for Undergraduates (REU)

Website: https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5517

Program Officers for DMS:

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A directory of active DMS REU sites:

https://www.nsf.gov/crssprgm/reu/list_result.jsp?unitid=5044

Submission Deadline: August 24, 2022 (for REU Sites, solicitation NSF 19-582).



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Research Experiences for Undergraduates (REU)

The REU program, through both **Sites** and **Supplements**, aims to provide appropriate and valuable educational experiences for undergraduate students through participation in research.

- **REU Sites:** independent proposals
 - About 8-10 students per year, most recruited from outside the host institution.
 - Total project costs should not exceed \$1,350 per student per week.
- **REU Supplements:** part of a new or ongoing NSF-funded research project
 - One or two students from the host institution.
- **RET Component:** research experiences for K-12 STEM teachers
 - Coordinate with REU projects
 - Contact REU program officer for guidance



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Research Experiences for Undergraduates (REU)

- **Educational experience:**
 - ✓ quality of research projects
 - ✓ nature of students' participation
- **Research environment:**
 - ✓ facilities
 - ✓ research mentor(s)
 - ✓ professional development opportunities
- **Recruitment/selection plans,** including those for students from:
 - ✓ underrepresented groups
 - ✓ outside the host institution
 - ✓ institutions with limited STEM research opportunities.
- Student preparation and follow-through.
- Other critical details:
 - ✓ appropriateness of the **budget**
 - ✓ effectiveness of the plans for **project management**
 - ✓ evaluation of outcomes
- ✓ For renewal proposals: **effectiveness of the previous Site.**



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Focused Research Groups in the Mathematical Sciences (FRGMS)

- **Solicitation:** [NSF 16-577](#)
- **Website:** <https://beta.nsf.gov/funding/opportunities/focused-research-groups-mathematical-sciences-frgms>
- **Program Officers FY2022**

Stefaan De Winter (sgdewint@nsf.gov)

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- **Submission Deadline:** **September 14, 2022** (2nd Wednesday in September)



Focused Research Groups in the Mathematical Sciences (FRGMS) (cont.)

- 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) (cont.)

- 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, which include:
 - ✓ 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

General

1. Will this meeting be recorded and shared afterwards?
2. Do other NSF Divisions have similar virtual events?
3. How early before the occurrence of a conference should a conference proposal be submitted?

REU

1. I would like to learn more about REU Site applications for projects that bring together statistics and another subject.
2. For an academic year REU what percentage of students should come from outside the institution of the PI?

CAREER

1. Is it possible to apply for a CAREER award and another NSF award in the same year?
2. Any special tips for those who are considering to apply for CAREER as a PI at a primarily teaching institution (PUI)?

FRGMS

1. Would an FRGMS proposal combining detailed math modeling and fluid dynamics experiments be compelling?
2. How much research cohesion and collaboration is typical for a successful FRGMS project?



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Virtual Office Hour: Thank you

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- Submit questions/suggestions about DMS Virtual Office Hours to DMS-VOH@nsf.gov
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