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)
Virtual Office Hour
Welcome!

Program Directors in attendance today
• Juan C. Meza (Division Director)
• Yuliya Gorb and Marian Bocea (Designing Materials to Revolutionize and Engineer our Future)
• Leland Jameson and Pawel Hitczenko (Algorithms for Threat Detection)
• Andrew Pollington (Secure and Trustworthy Cyberspace)
• Moderators: Michelle Manes, Malgorzata Peszynska, Christopher Stark

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-vo@nsf.gov
Division of Mathematical Sciences (DMS)

Virtual Office Hour

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: January 21, 11am EST

Topics include: REU, Smart Health, tips for new PIs.
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.

• Designing Materials to Revolutionize and Engineer our Future (DMREF).
  https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=505073&org=DMS&from=home

• Algorithms for Threat Detection (ATD).
  https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=503427&org=DMS&from=home

• Secure and Trustworthy Cyberspace (SaTC).
  https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=504709&org=DMS&from=home

• Q&A
Division of Mathematical Sciences (DMS)
Virtual Office Hour
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

- Upcoming target dates
  - HDR Institutes: January 21, 2021
  - DMREF: January 25, 2021
  - NSF INCLUDES: January 26, 2021
  - Quantum Leap Challenge Institutes: February 1, 2021
  - ADVANCE: February 4, 2021
  - HDR Data Science Corps: January 26 – February 12, 2021
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Division of Mathematical Sciences (DMS)

Designing Materials to Revolutionize Our Future (DMREF)

- **Website:** [https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=505073](https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=505073)

- **Program Officers for DMS:**
  - Marian Bocea [mbocea@nsf.gov](mailto:mbocea@nsf.gov)
  - Yuliya Gorb [vgorb@nsf.gov](mailto:vgorb@nsf.gov)

- **Submission Deadline:** January 25, 2021 (apply to NSF 21-522)
  - **Submission Window:** January 11 – January 25, 2021
  - Expect proposals from well-integrated, interdisciplinary teams that draw on expertise in multiple areas including experiment, computation, and theory
  - Proposals will be co-reviewed by other divisions in the areas of science and engineering where impacts of the projects are expected
Division of Mathematical Sciences (DMS) Algorithms for Threat Detection (ATD)

Program Webpage:
https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=503427&org=DMS&from=home

DMS Program Officers:
• Pawel Hitczenko (phitczen@nsf.gov)
• Leland Jameson (ljameson@nsf.gov)

Proposal Deadline: February 17, 2021
• In the current ATD portfolio we are a bit short on research topics that would be considered mathematics or applied mathematics.
• Student training housed in the mathematical sciences will have an advantage over those that are not (as per Additional Review Criteria in the ATD Solicitation NSF 20-531).
Division of Mathematical Sciences (DMS)
Secure and Trustworthy Cyberspace (SaTC)

Program Webpage: https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=504709

- An across-NSF flagship program in security (encompassing 5 NSF directorates and administered by CNS in CISE) with a budget of around $69M
- DMS involved through work cryptography, statistics and probability, and QIS. A recent concentration is in post quantum crypto schemes and the NIST competition.

CISE Lead Program Officer: Jeremy Epstein
DMS Program Officers:
- Andrew Pollington (adpollin@nsf.gov)
- Lee Jameson (l jameson@nsf.gov)

Proposal Window:
- Small (up to $500k) Medium ($500k to $1.2M): Anytime to Sept. 30, 2021
- Large (> $1.2M) January 21 – 29, 2021
Division of Mathematical Sciences (DMS)  
Secure and Trustworthy Cyberspace (SaTC)

- Welcomes proposals that address cybersecurity and privacy and draw on expertise in one or more of these areas: computing, communication and information sciences; engineering; education; mathematics; statistics; and social, behavioral, and economic sciences.

- Proposals that advance the field of cybersecurity and privacy within a single discipline or interdisciplinary efforts that span multiple disciplines are both welcome.

- DMS topics of interest:
  - mathematical foundations of cryptography, including the development of secure post-quantum cryptographic methods such as those based on lattices, codes, multivariate functions, and super-singular isogenies;
  - cryptographically effective multilinear maps;
  - novel applications of statistics and probability to security and privacy problems, such as intrusion detection and differential privacy.
Division of Mathematical Sciences (DMS)  
Virtual Office Hour: some questions from registration

1. General topic:
   A. Trends for NSF and DMS in 2021 and beyond?
   B. No-cost extensions and deadline extensions due to COVID?

2. DMREF program:
   A. Specific focus of the program?
   B. Expectation / proportion of math & data science in a proposal?
   C. Does the program address hardware & physical layer methods?

3. ATD program:
   A. Specific target applications? (Interest in proposals that involve crime prediction, cybersecurity, etc?)
   B. Is preference given to projects that involve geospatial data?

4. Other questions:
   A. Can I send a one-page description to a program officer for feedback?
   B. Possible to apply mostly for graduate student support?
   C. How to join the review panel for a specific program?
   D. Typical timeline from submission to final decision?
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

• 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=2020

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