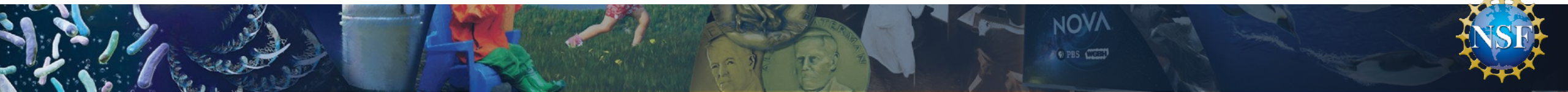






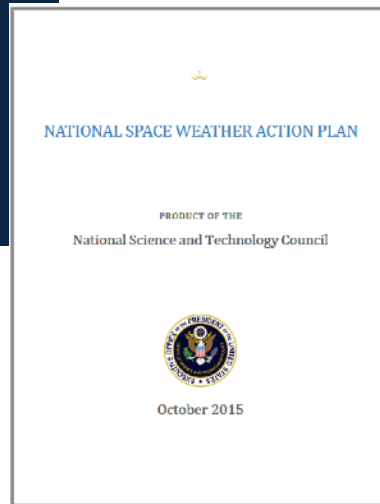
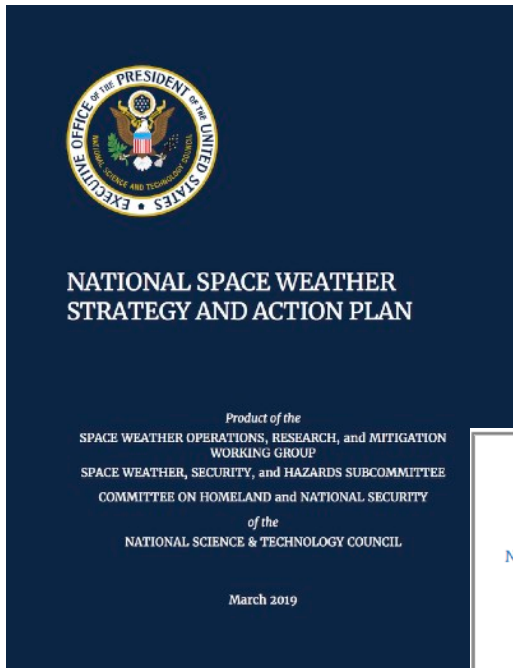
# Outline

- Priorities - National, Agency, Program
- Overview of NSF Structure
- Geospace Facilities
- Opportunities for Students
- Overview of the Grant Process
- Understanding the grants and review process





# Space Weather a National Priority



- In 2015, the White House Office of Science and Technology Policy released the National Space Weather Action Plan and in 2016, it was made a permanent part of the National Science and Technology Council
- This year, it was re-released as the National Space Weather Strategy and Action Plan
- The Space Weather Research and Forecasting Act has also been making it's way through Congress.

# NSF Supports Fundamental Science



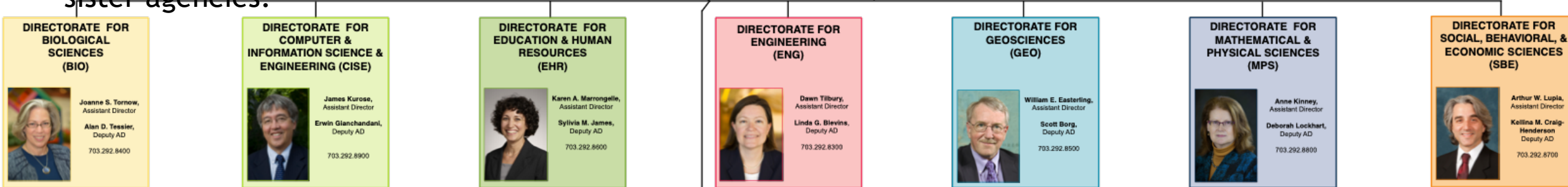
- Unlike the mission driven agencies, NSF has a goal of supporting science from the grassroots.
- This philosophy compliments our sister agencies.

**OFFICE OF THE DIRECTOR**  
703.292.8000



**France A. Córdoba**  
Director

- The NSF Director and the ADs set agency and Directorate level priorities



## Divisions:

Atmospheric and Geospace Sciences  
 Earth Sciences  
 Ocean Sciences  
 Polar Programs

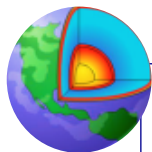






# Geosciences Organizational Chart

**Dr. William Easterling**, Assistant Director  
**Dr. Scott Borg**, Deputy Assistant Director



**Earth Sciences (EAR)**  
**Carol Frost, Division Director**  
Integrated Activities  
Disciplinary Programs



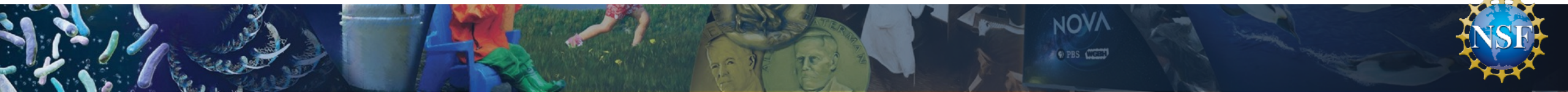
**Ocean Sciences (OCE)**  
**Vacant, Division Director**  
Marine Geosciences  
Ocean  
Integrated Programs



**Atmospheric and Geospace Sciences (AGS)**  
**Anjuli Bamzai, Division Director**  
Atmospheric Science  
Geospace Science  
NCAR and Facilities



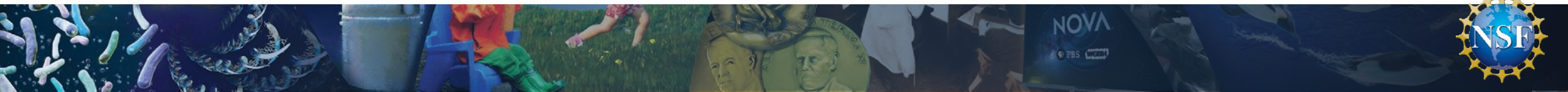
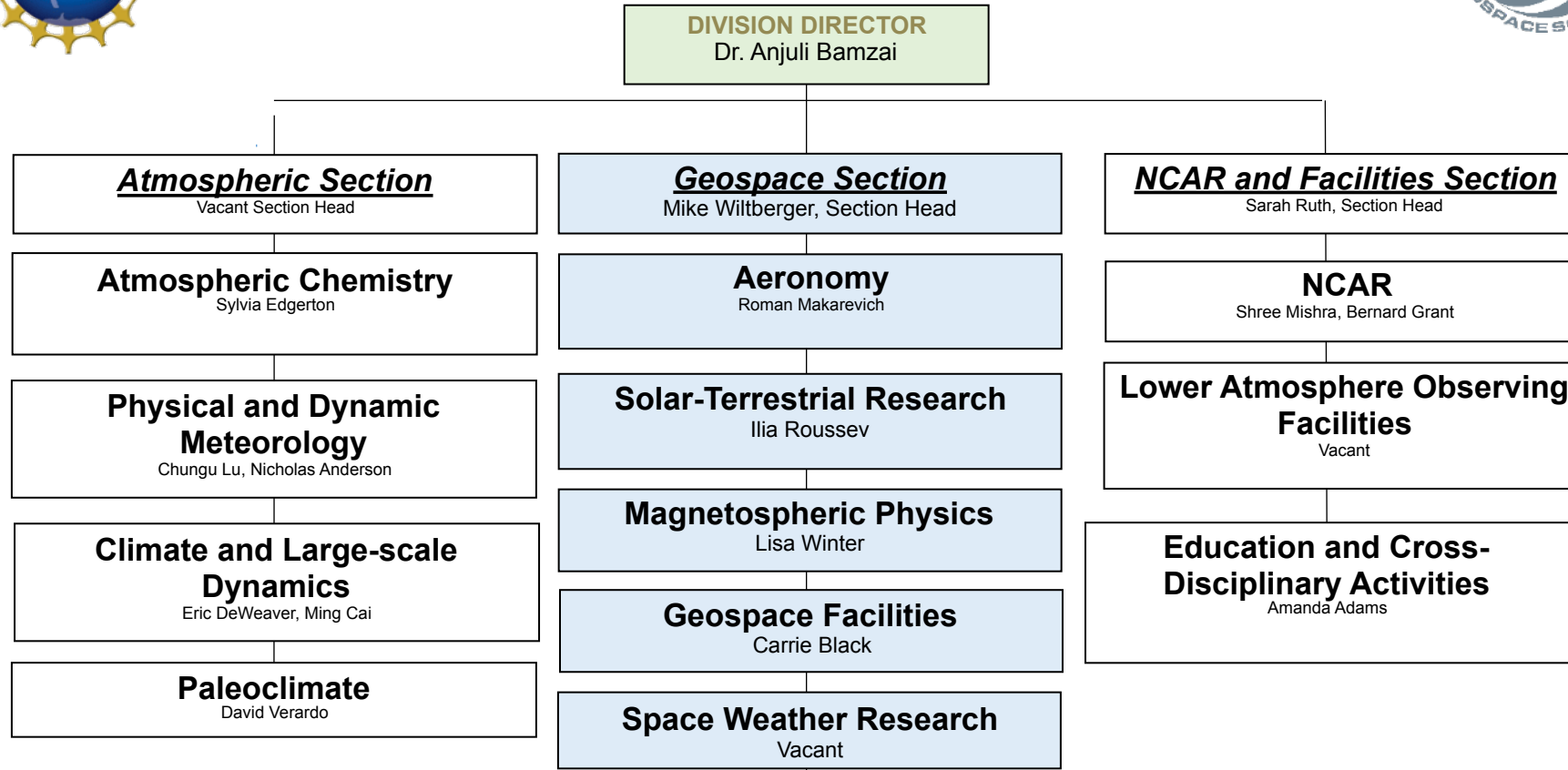
**Office of Polar Programs (OPP)**  
**Kelly Falkner, Office Director**  
Antarctic and Arctic Sciences  
Antarctic Infrastructure and Logistics  
Antarctic Artists & Writers



- The Division Directors and Program Officers feed “local” priorities.

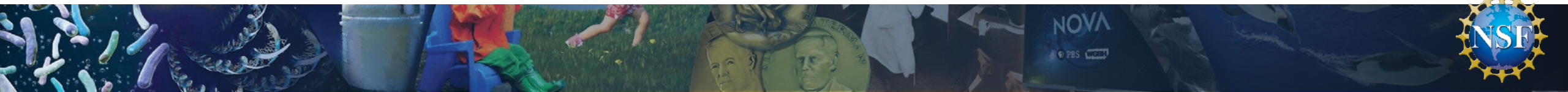
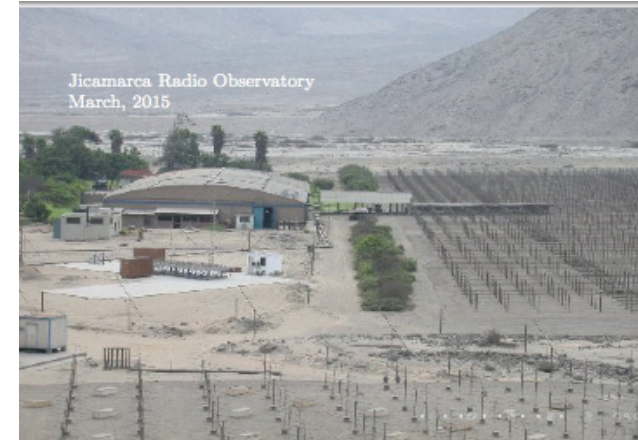


## DIVISION OF ATMOSPHERIC AND GEOSPACE SCIENCES





# Geospace Facilities

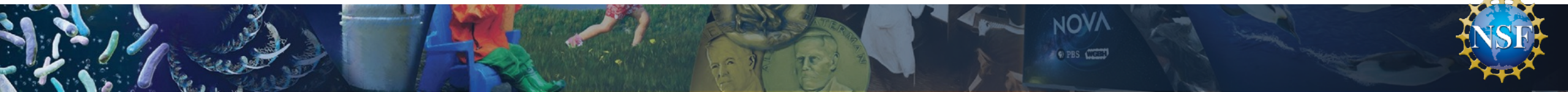
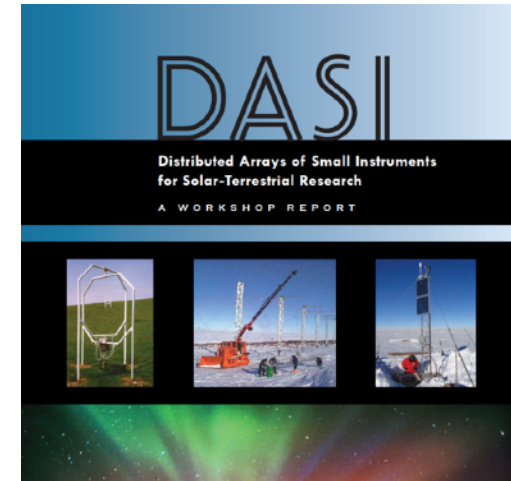




# We Need YOU!

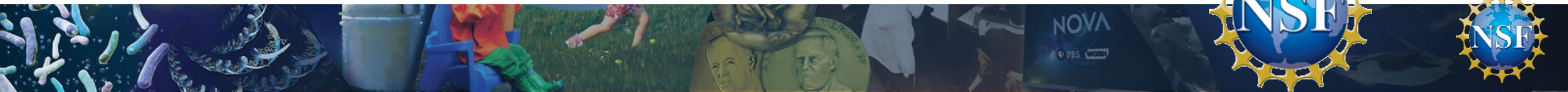


- It is time for innovation and for the next generation to organize.
- ISR Workshop in Spring 2020
- 2019 Held First DASI Competition
- Innovation and Vitality Program
  - Support renovation and upgrade of existing facilities
  - Facilitate the development of new instrumentation



# NSF Solicitations and Funding Mechanisms

- Core (un-solicited)
- Programs (solicitations)
  - SHINE, GEM, CEDAR
  - PRF, GRFP
  - INSPIRE
  - CAREER
  - MRI
  - MSRI
- Co-funding
  - interagency
  - interdivisional

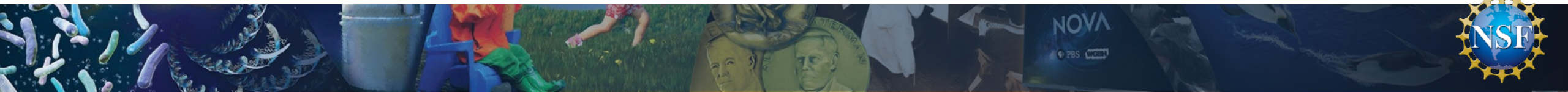
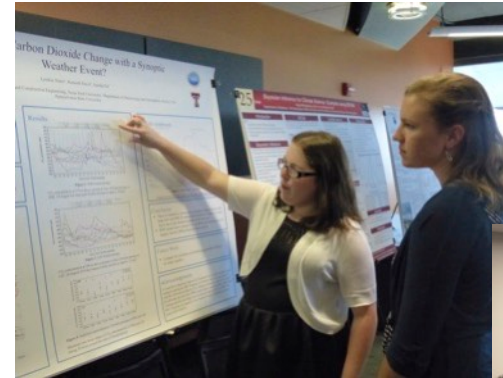




# Research Experiences for Undergraduates (NSF 13-542)

- **Minimum Cohort size of 6 students**
- **Typically a summer experience, but other models are supported**
- **Provides students with a paid research experience, mentoring and professional development**

**Geospace REU sites**  
Harvard Smithsonian Center for Astrophysics  
University of Alabama-Huntsville  
University of Colorado-Boulder  
University of Michigan  
University of Puerto Rico



# NSF Graduate Research Fellowships



## Five Year Awards - \$138,000

- Three years of financial support
  - \$34,000 Stipend per year
  - \$12,000 Educational allowance to institution
- Professional Development Opportunities:
  - GRIP: internships at federal agencies
  - INTERN: other industry/policy/nat'l lab internships
- Career-Life Balance Initiative (family leave)
- Supercomputer access: XSEDE



## Graduate Research Fellowship Program (GRFP)

**PROGRAM SOLICITATION**  
NSF 18-573

**REPLACES DOCUMENT(S):**  
NSF 16-588



National Science Foundation

Directorate for Biological Sciences

Directorate for Computer & Information Science & Engineering

Directorate for Education & Human Resources  
Division of Graduate Education

Directorate for Engineering

Directorate for Geosciences

Directorate for Mathematical & Physical Sciences

Directorate for Social, Behavioral & Economic Sciences

Office of Integrative Activities

Office of International Science and Engineering

Application Deadline(s) (received by 5 p.m. local time of applicant's mailing address)

- **Fellowship:** Awarded to individual
- **Flexible:** Choice of project, advisor & graduate program
- **Portable:** Can be used at any accredited U.S. institution
  - MS, PhD, both degrees





# GRFP Eligibility [NSF 18-573]

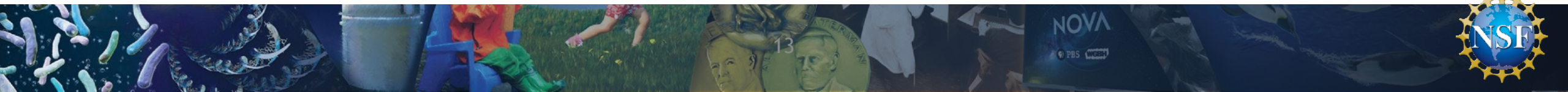
- U.S. citizens and permanent residents
- Early-career: undergrad & grad students
- Pursuing research-based MS or PhD
- Science and engineering
- Enrolled in accredited institution in US by Fall



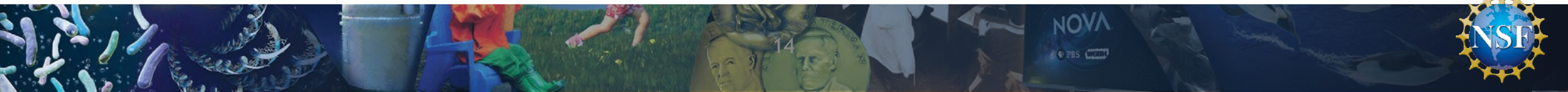
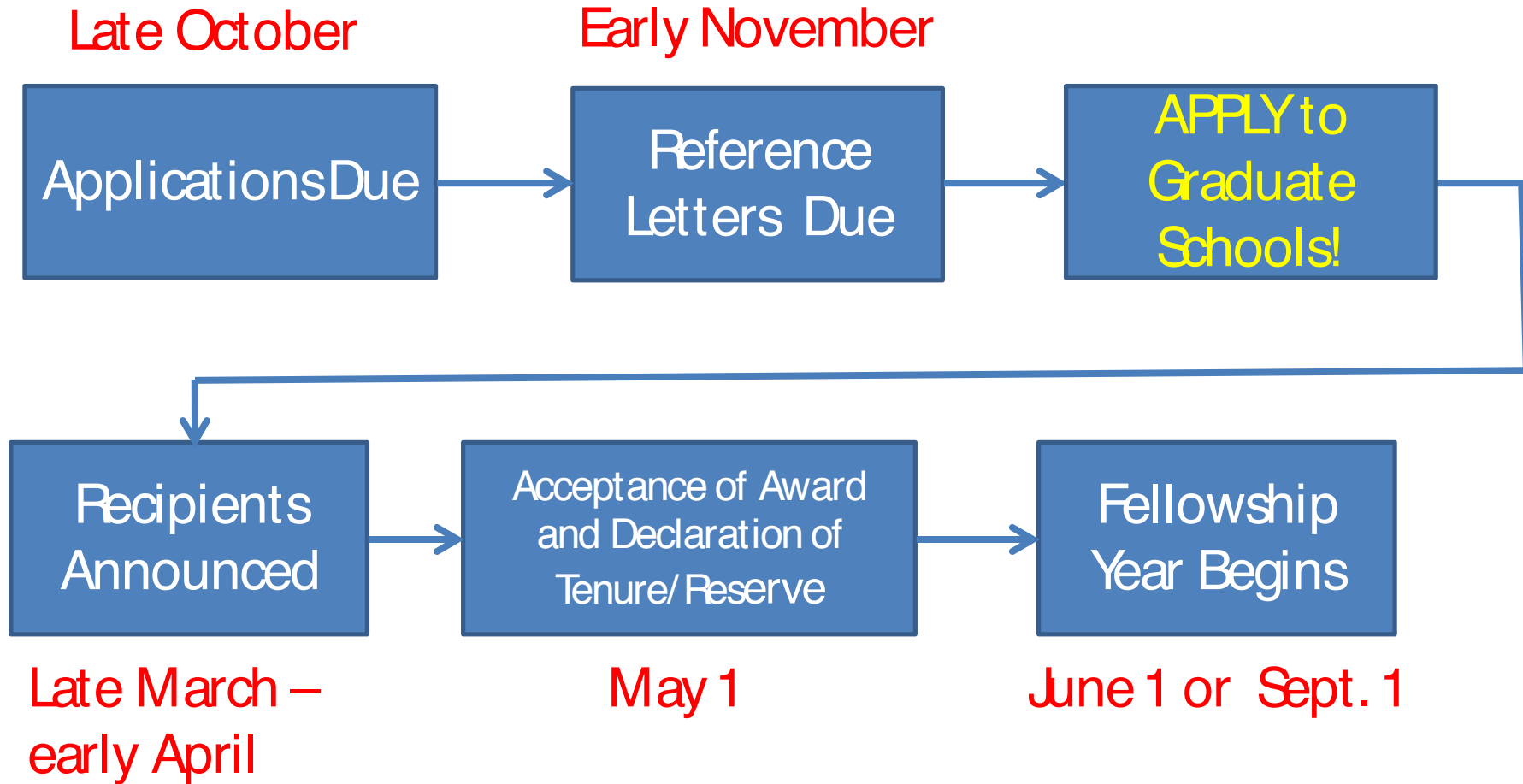
## Academic Levels

- 1: Seniors or baccalaureates with no graduate study yet
- 2: First-year graduate students
- 3: Second-year graduate students  
(at the beginning of the second year) **Only once in grad school**
- 4: >12 months graduate study, with interruption in graduate study of 2+ years

*See solicitation NSF 18-573 for further eligibility details*



# GRFP Application Timeline





# GRFP Deadlines

## Plasma Science & Engineering Subfield Deadlines (by 5pm):

### 1) October 21, 2019:

- Geosciences: Magnetospheric Physics, Solar Physics

### 2) October 22, 2019:

- Engineering: Aeronautical and Aerospace Engineering, Nuclear Engineering, Chemical Engineering, Environmental Engineering, Materials Engineering
- Materials Research: Photonic materials

### 3) October 25, 2019:

- Physics and Astronomy: Plasma Physics, Astronomy and Astrophysics

Reference letter deadline (**3 letters**): November 1, 2019

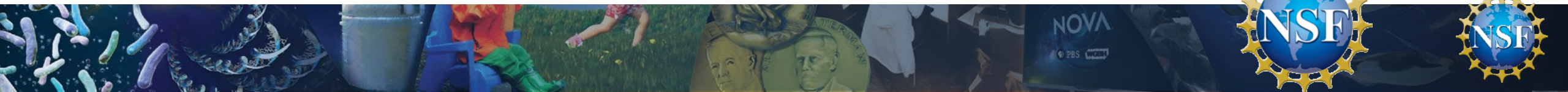






# What you should understand about the process

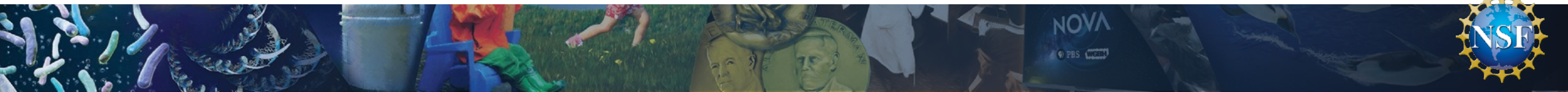
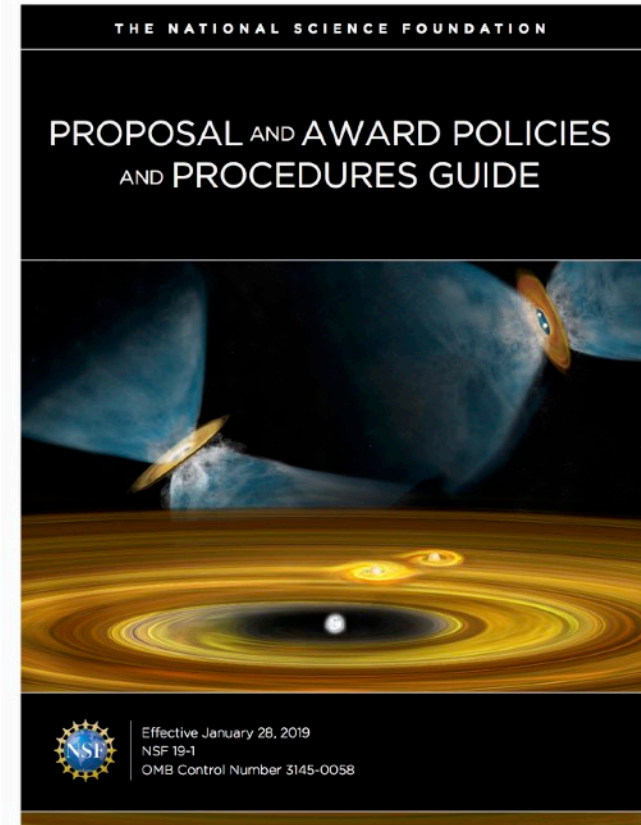
- This takes time.
- NSF has a goal of making decisions within 6 months of submission. **THIS IS NOT ALWAYS POSSIBLE!** And this is not the end of the process.
- Once a decision is reached, it can take several months for the process to be completed and money to reach your institution.
- Be conservative. Estimate 12-18 months from the time you submit a proposal for funds to reach you.
- Only submit one idea at a time - POs coordinate and will only entertain one proposal at a time from a PO
- Do not simply resubmit a proposal. Your proposal can be returned without review if changes are not made.



# NSF Proposal Proposals and Review Criteria



- NSF Grant Proposal Guide
- Review Criteria
  - Intellectual Merit
  - Broader Impacts
  - Relevance to a Solicitation
  - Additional Solicitation Specific Criteria
- NSF Conflicts of Interest
- Non Compliant Proposals can be **returned without review**





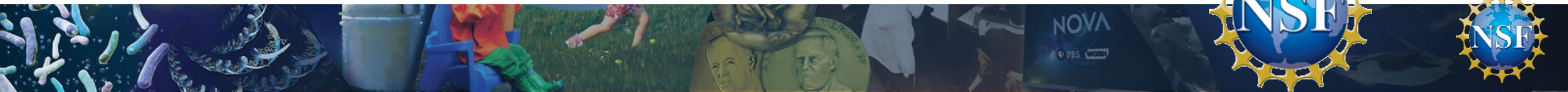
# How Funding Decisions Are Made

- NSF relies on the community to review proposals
  - Panels or Mail Ins
  - POs **CANNOT** MAKE FUNDING RECOMMENDATIONS WITHOUT REVIEWS FROM **YOU**.
- Minimum of 3 reviews per proposal
- Reviewers inform PO
- POs look at portfolio for balance, timeliness/urgency and other factors and recommend to the Division Director.



# If You Are Declined

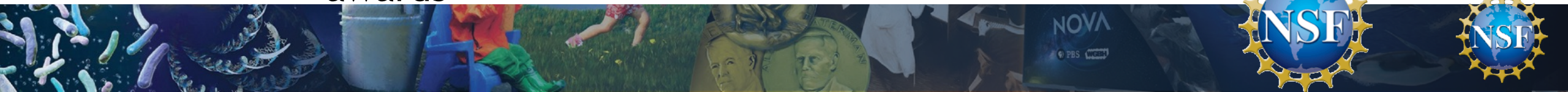
- Read the reviews and comments from the PO
- Talk to your community
  - Consider comments you get in meetings, conferences, etc
  - Remember that these people are your reviewers
- Talk to your PO
- REVISE THE PROPOSAL
- Resubmit





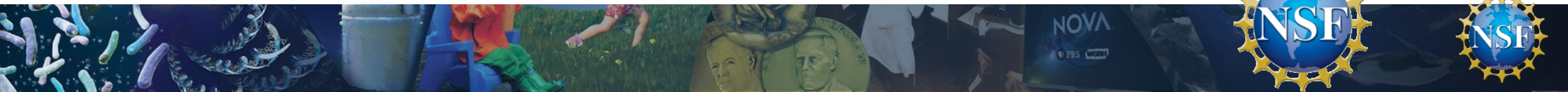
# You Win an Award – Now What?

- Do Your Very Best Science
- Things happen and you cannot always spend the money or work plans change
  - There are mechanisms for this.
  - No Cost Extensions and Revised Work Plans
- Annual and Final Reports
  - Do them. On Time.
  - Annual reports due 3 months prior to the end of period
  - Any changes to the work, how the funds were spent, etc
  - Late Reports hold up increments in funding and new awards



# Communicating with NSF

- TALK TO YOUR PROGRAM OFFICER
- If you have questions or concerns or want to share some super cool science.
- Offer to review
  - Early careers often are concerned they don't have the expertise.
  - You are a an expert in your field. You have a perspective that is valued.
  - It is a great way to learn how NSF works and how your community thinks.



# Reviewing is the Best Way to Learn How to Write a Good Proposal

- Last year grad students and postdocs
- Send your contact info and a brief bio to [cblack@nsf.gov](mailto:cblack@nsf.gov)





# How to Write a Useful Review

- Reviews identify Major and Minor Strengths and Weaknesses
  - Summary
  - Intellectual Merit
  - Broader Impacts
  - Recommendation
- Give your opinion in the summary
- Statements on how important a particular area is to the community at large are helpful
- Suggestions for improvement of the proposal document or science idea
- Communicate with your PO - if you are unsure of what is useful or appropriate, call us. We will help you understand how to address this.



- Thank you!

