NSF Regional Grants Conference
Merit Review

March 22-23, 2010

Hosted by: Case Western Reserve University, Cleveland, OH

Panelists

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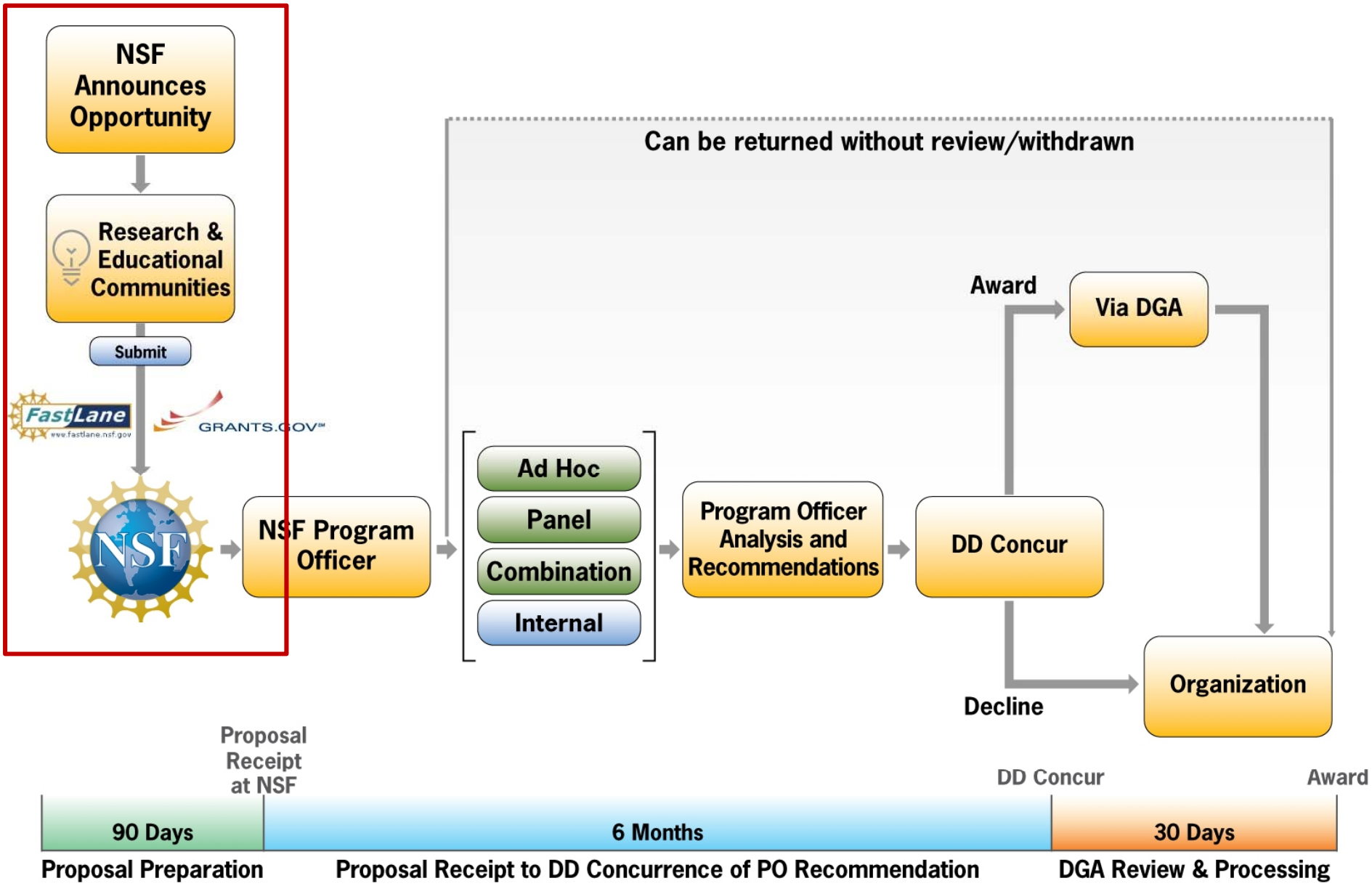
Topics Covered

- **Proposal and Award Timeline**
- **Proposal Preparation and Submission**
  - Reminders When Preparing Proposals
- **Proposal Review and Processing**
  - Program Officer Review
  - Proposal Review Criteria
  - Types of Reviews
  - Becoming a Reviewer
  - Managing Conflicts of Interest
  - Funding Decisions
- **Award Processing**
  - Issuing the Award
- **Conclusion**

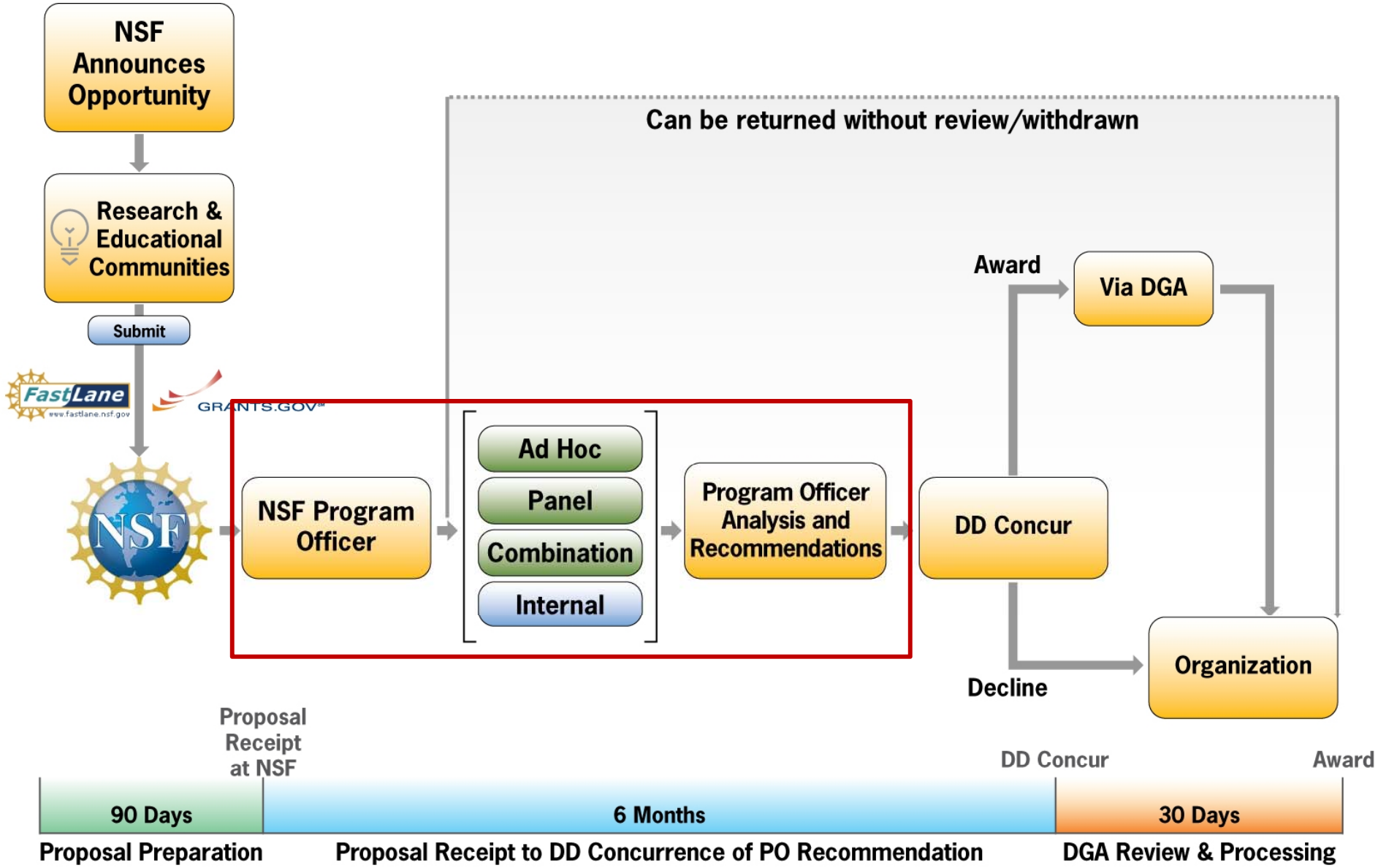
NSF Proposal & Award Process Timeline



Reminders When Preparing Proposals

- Read the funding opportunity; ask a Program Officer for clarifications if needed
- Address all the proposal review criteria
- Understand the NSF merit review process
- Avoid omissions and mistakes
- Check your proposal to verify that it is complete!

Proposal Review and Processing



Program Officer Review

- **Upon receipt at NSF, the Proposal Processing Unit routes proposals to the correct program office.**
- **The Program Officer conducts a preliminary review to ensure they are:**
  - Complete;
  - Timely; and
  - Conform to proposal preparation requirements.
- **NSF may return a proposal without review if it does not meet the requirements above.**
  - The return without review process will be discussed in greater detail later in the session.

Proposal Review Criteria

- **Throughout the review process, proposals are evaluated against:**
  - **National Science Board approved merit review criteria:**
    - What is the intellectual merit of the proposed activity?
    - What are the broader impacts of the proposed activity?
  - **Program specific criteria (stated in the program solicitation).**

Merit Review Criteria

The Grant Proposal Guide (GPG) contains a description of the Merit Review Criteria

A. Review Criteria

The National Science Foundation strives to conduct a fair, competitive, transparent merit-review process for the selection of projects. All NSF proposals are evaluated through use of two National Science Board approved merit review criteria. In some instances, however, NSF will employ additional criteria as required to highlight the specific objectives of certain programs and activities. For example, proposals for large facility projects also might be subject to special review criteria outlined in the program solicitation.

Intellectual Merit Considerations

- How important is the proposed activity to advancing knowledge and understanding within its own field or across different fields?
- How well-qualified is the proposer (individual or team) to conduct the project? (If appropriate, the reviewer will comment on the quality of prior work.)
- To what extent does the proposed activity suggest and explore creative, original or potentially transformative concepts?
- How well-conceived and organized is the proposed activity?
- Is there sufficient access to resources?

Broader Impacts Considerations

- How well does the activity advance discovery and understanding while promoting teaching, training, and learning?
- How well does the activity broaden the participation of underrepresented groups (e.g., gender, ethnicity, disability, geographic)?
- To what extent will the activity enhance the infrastructure for research and education, such as facilities, instrumentation, networks, and partnerships?
- Will the results be disseminated broadly to enhance scientific and technological understanding?
- What may be the benefits of the proposed activity to society?

Examples of Broader Impacts

- **Advance Discovery and Understanding While Promoting Teaching, Training and Learning**
  - Integrate research activities into the teaching of science, math, and engineering at all educational levels (e.g., K-12, undergraduate science majors, non-science majors, and graduate students)
  - Include students (e.g., K-12, undergraduate science majors, non-science majors, and /or graduate students) as participants in the proposed activities as appropriate
  - Participate in the recruitment, training, and/or professional development of K-12 science and math teachers

Examples of Broader Impacts

- **Broaden Participation of Underrepresented Groups**
  - Establish research and education collaborations with students and/or faculty who are members of underrepresented groups
  - Include students from underrepresented groups as participants in the proposed research and education activities
  - Establish research and education collaborations with students and faculty from non-Ph.D.-granting institutions and those serving underrepresented groups
  - Make campus visits and presentations at institutions that serve underrepresented groups

Examples of Broader Impacts

- **Enhance Infrastructure for Research and Education**
  - Identify and establish collaborations between disciplines and institutions, among the U.S. academic institutions, industry and government, and with international partners
  - Stimulate and support the development and dissemination of next-generation instrumentation, multi-user facilities, and other shared research and education platforms
  - Maintain, operate, and modernize shared research and education infrastructure, including facilities and science and technology centers and engineering research centers

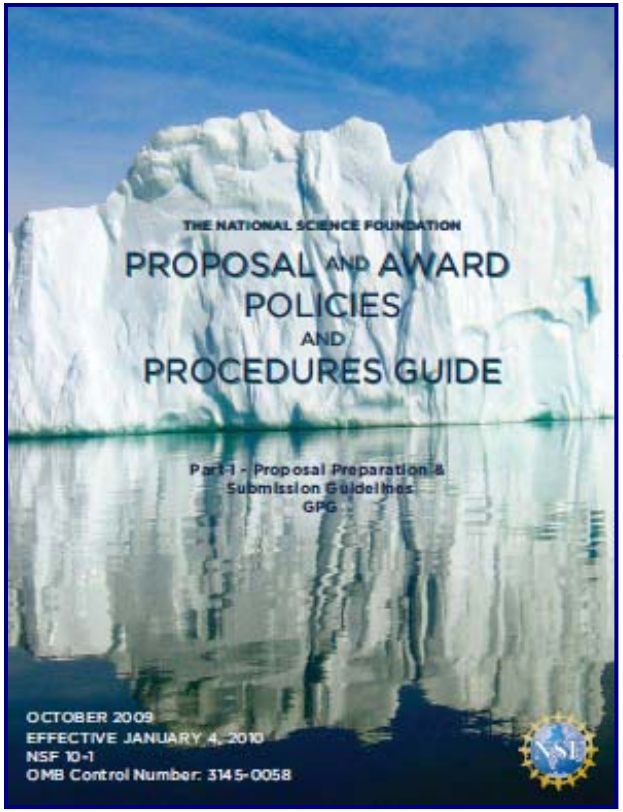
Examples of Broader Impacts

- **Broad Dissemination to Enhance Scientific and Technological Understanding**
  - Partner with museums, nature centers, science centers, and similar institutions to develop exhibits in science, math, and engineering
  - Involve the public or industry, where possible, in research and education activities
  - Give science and engineering presentations to the broader community (e.g., at museums and libraries, on radio shows, and in other such venues)
  - Make data available in a timely manner by means of databases, digital libraries, or other venues such as CD-ROMs

Examples of Broader Impacts

- **Benefits to Society**
  - Demonstrate the linkage between discovery and societal benefit by providing specific examples and explanations regarding the potential application of research and education results
  - Partner with academic scientists, with staff at federal agencies, and with the private sector on both technological and scientific projects to integrate research into broader programs and activities of national interest
  - Analyze, interpret, and synthesize research and education results in formats understandable and useful for non-scientists
  - Provide information for policy formulation by Federal, State, or local agencies

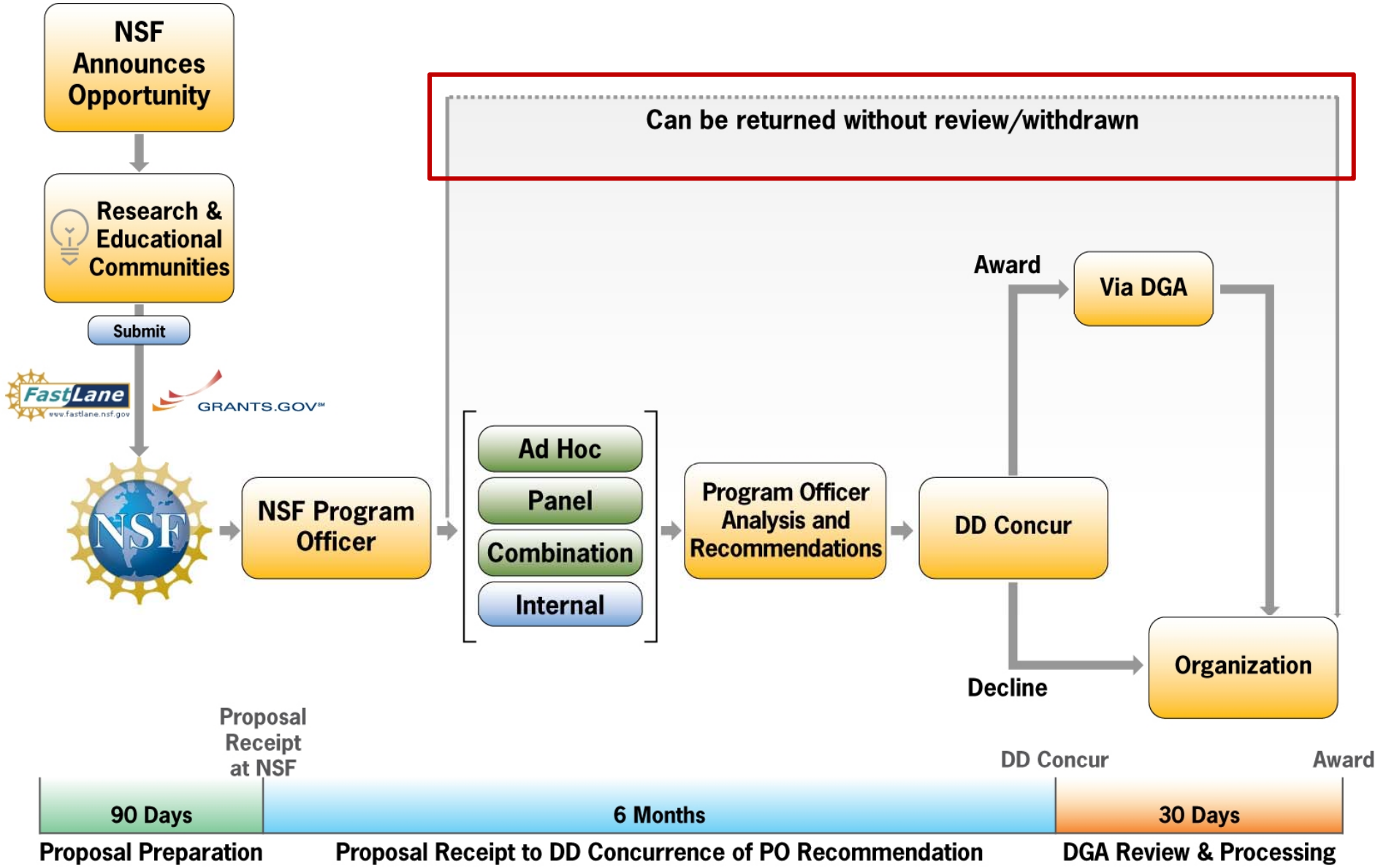
Examples of Broader Impacts



The GPG contains examples of Broader Impacts. For further information, visit:

http://www.nsf.gov/pubs/gpg/broaderimpacts.pdf

Proposal Review and Processing



Return of Proposals Without Review

- **Per Important Notice 127, *Implementation of new Grant Proposal Guide Requirements related to the Broader Impacts Criterion*:**
  - Proposals that do not separately address both criteria within the one-page Project Summary **<u>will be</u>** returned without review.
- **Per the GPG postdoctoral researcher mentoring requirement:**
  - Proposals that include postdoctoral researchers must include, as a supplementary document, a description of the mentoring activities that will be provided for such individuals.
  - The mentoring plan must not exceed one page per project.

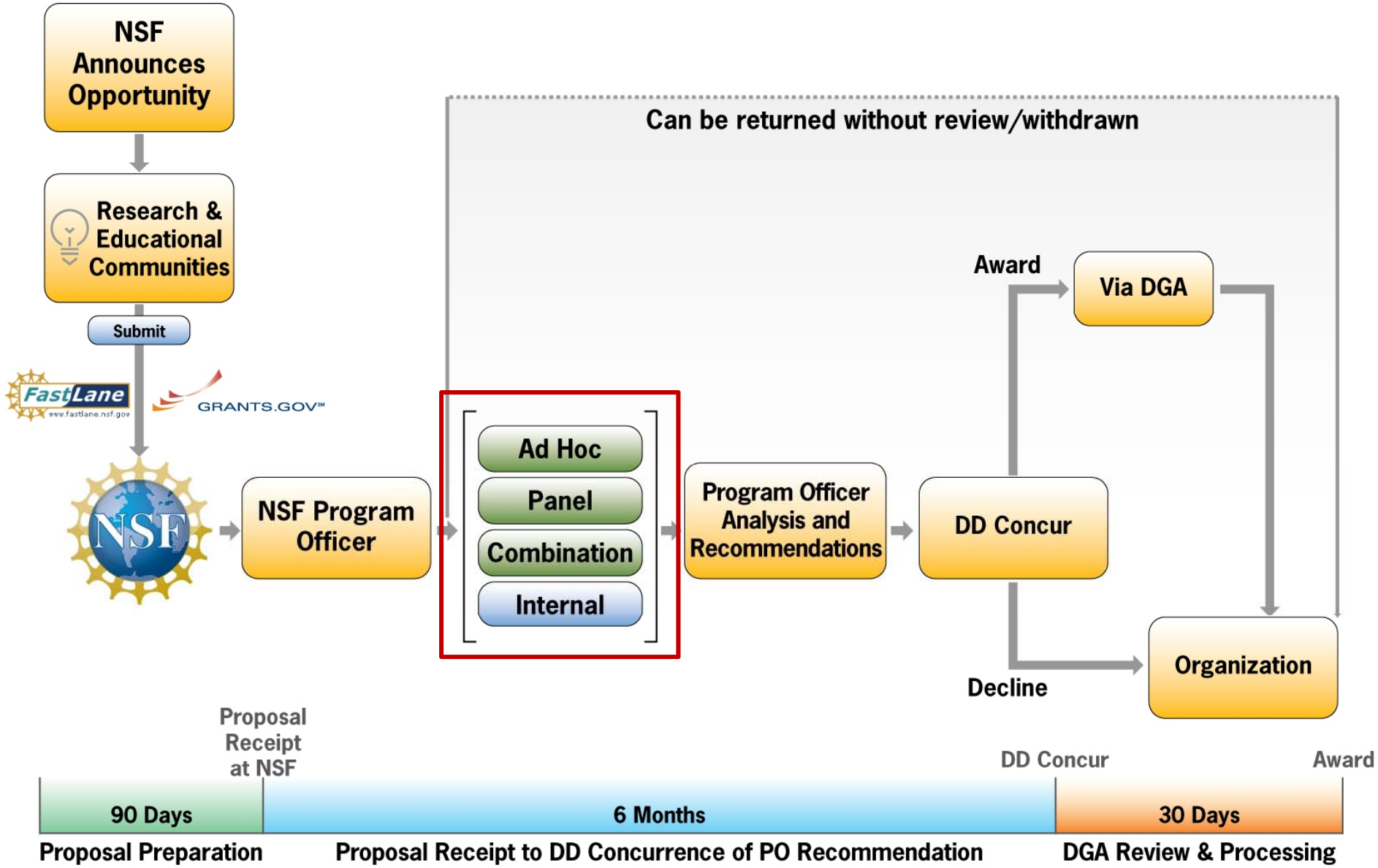
Other Reasons for Return of Proposals Without Review

- **It is inappropriate for funding by the National Science Foundation.**
- **It is submitted with insufficient lead time before the activity is scheduled to begin.**
- **It is a full proposal that was submitted by a proposer that has received a “not invited” response to the submission of a preliminary proposal.**
- **It is a duplicate of, or substantially similar to, a proposal already under consideration by NSF from the same submitter.**

Other Reasons for Return of Proposals Without Review

- **It does not meet NSF proposal preparation requirements, such as page limitations, formatting instructions, and electronic submission, as specified in the GPG or program solicitation.**
- **It is not responsive to the GPG or program announcement/solicitation.**
- **It does not meet an announced proposal deadline date (and time, where specified).**
- **It was previously reviewed and declined and has not been substantially revised.**
- **It duplicates another proposal that was already awarded.**

Proposal Review and Processing



Types of Reviews

- ***Ad hoc*: proposals sent out for review —**
  - *Ad hoc* reviewers usually have specific expertise in a field related to the proposal.
  - Some proposals may undergo *ad hoc* review only.

- **Panel: review conducted by peers at NSF —**
  - Panel reviewers usually have a broader scientific knowledge.
  - Some proposals may undergo only a panel review.
  - Some proposals may undergo reviews by multiple panels (especially for those proposals with cross-cutting themes).

Types of Reviews

- **Combination: some proposals may undergo supplemental *ad hoc* reviews after a panel review.**

- **Internal: review by NSF Program Officers only—**
  - Examples of internally reviewed proposals:
    - Proposals submitted to Rapid Response Research Grants (RAPID)
    - Proposals submitted to EArly-concept Grants for Exploratory Research (EAGER)
    - Proposals for conferences or workshops

How are Reviewers Selected?

- **Types of reviewers recruited:**
  - Reviewers with specific content expertise
  - Reviewers with general science or education expertise
- **Sources of Reviewers:**
  - Program Officer's knowledge of the research area
  - References listed in proposal
  - Recent professional society programs
  - Computer searches of S&E journal articles related to the proposal
  - Former reviewers
  - Reviewer recommendations included in proposal or sent by email
- **Three to ten external reviewers per award are selected.**

How Do I Become a Reviewer?

- **Contact the NSF Program Officer(s) of the program(s) that fit your expertise:**
  - Introduce yourself and your research experience.
  - Tell them you want to become a reviewer for their program.
  - Ask them when the next panel will be held.
  - Offer to send a 2-page CV with current contact information.
  - Stay in touch if you don’t hear back right away.

What is the Role of the Reviewer?

- **Review all proposal material and consider:**
  - The two NSF merit review criteria and any program specific criteria.
  - The adequacy of the proposed project plan including the budget, resources, and timeline.
  - The priorities of the scientific field and of the NSF program.
  - The potential risks and benefits of the project.
- **Make independent written comments on the quality of the proposal content.**

What is the Role of the Review Panel?

- Discuss the merits of the proposal with the other panelists
- Write a summary proposal review based on that discussion
- Provide some indication of the relative merits of different proposals considered

Why Serve on an NSF Panel?

- Gain first-hand knowledge of the merit review process
- Learn about common problems with proposals
- Discover proposal writing strategies
- Meet colleagues and NSF Program Officers managing the programs related to your research

Managing Conflicts of Interest in the Review Process

- **The primary purpose is to remove or limit the influence of ties to an applicant institution or investigator that could affect reviewer advice.**
- **The secondary purpose is to preserve the trust of the scientific community, Congress, and the general public in the integrity, effectiveness, and evenhandedness of NSF's merit review process.**

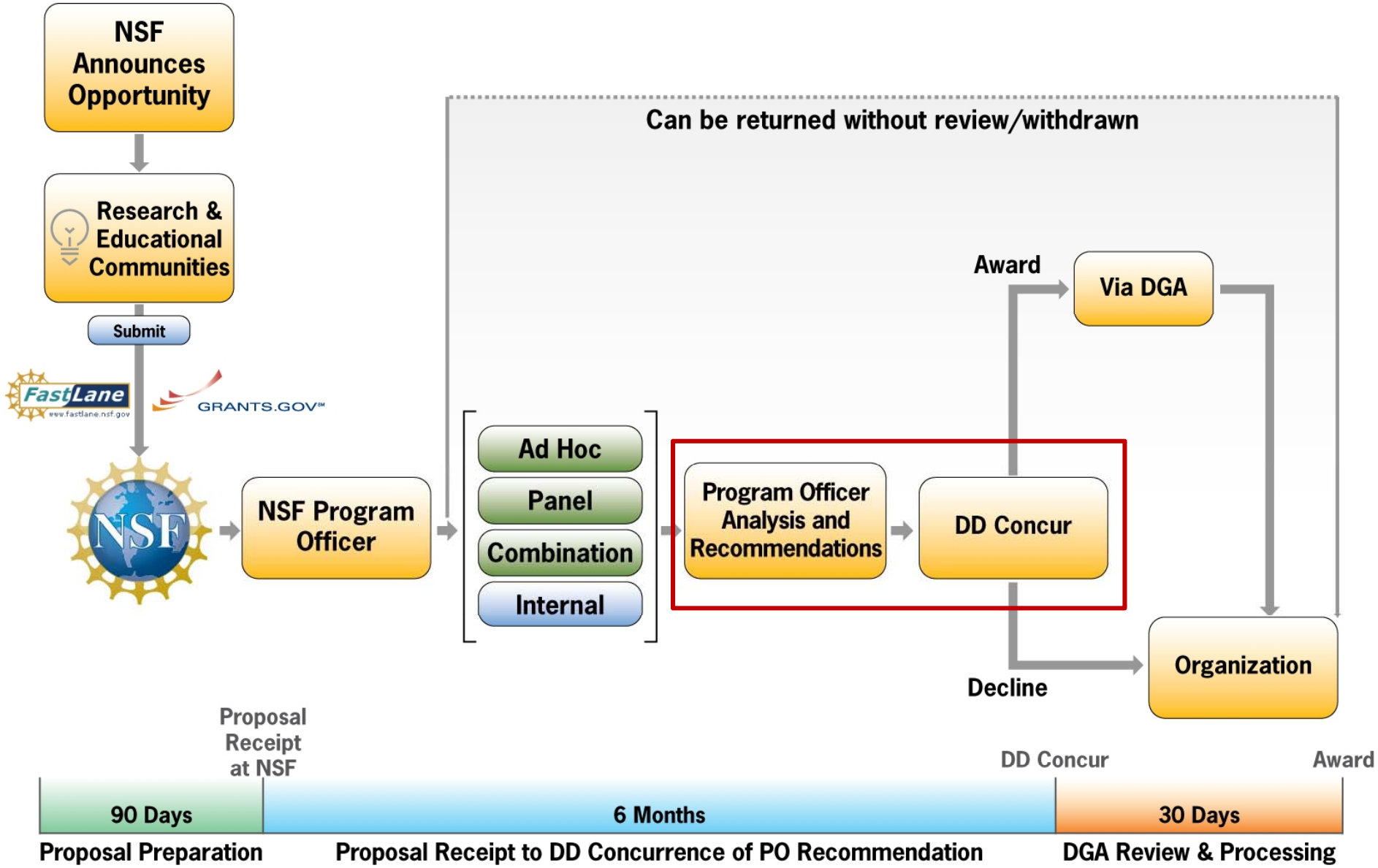
Examples of Affiliations with Applicant Institutions

- Current employment at the institution
- Other association with the institution, such as being a consultant
- Being considered for employment or any formal or informal reemployment arrangement at the institution
- Any office, governing board membership, or relevant committee membership at the institution

Examples of Personal Relationships with Investigator or Project Director

- Known family or marriage relationship
- Business partner
- Past or present thesis advisor or thesis student
- Collaboration on a project or book, article, or paper within the last 48 months
- Co-edited a journal, compendium, or conference proceedings within the last 24 months

Proposal Review and Processing



Funding Decisions

- **The merit review panel summary provides:**
  - Review of the proposal and a recommendation on funding.
  - Feedback (strengths and weaknesses) to the proposers.
- **NSF Program Officers make funding recommendations guided by program goals and portfolio considerations.**
- **NSF Division Directors either concur or reject the Program Officer's funding recommendations.**

Feedback from Merit Review

- Reviewer ratings (such as: E, VG, G, F, P)
- Analysis of how well proposal addresses both review criteria: Intellectual Merit and Broader Impacts
- Proposal strengths and weaknesses
- Reasons for a declination (if applicable)

If you have any questions, contact the cognizant Program Officer.

Documentation from Merit Review

- Verbatim copies of individual reviews, excluding reviewer identities
- Panel Summary or Summaries (if panel review was used)
- Context Statement (usually)
- PO to PI comments (written or verbal) as necessary to explain a declination (if applicable)

Reasons for Declines

- **The proposal was not considered to be competitive based on the merit review criteria and the program office concurred.**
- **The proposal had flaws or issues identified by the program office.**
- **The program funds were not adequate to fund all competitive proposals.**

Revisions and Resubmissions

- **Points to consider:**
  - Do the reviewers and the NSF Program Officer identify significant strengths in your proposal?
  - Can you address the weaknesses that reviewers and the Program Officer identified?
  - Are there other ways you or your colleagues think you can strengthen a resubmission?

As always, if you have questions, contact the cognizant Program Officer.

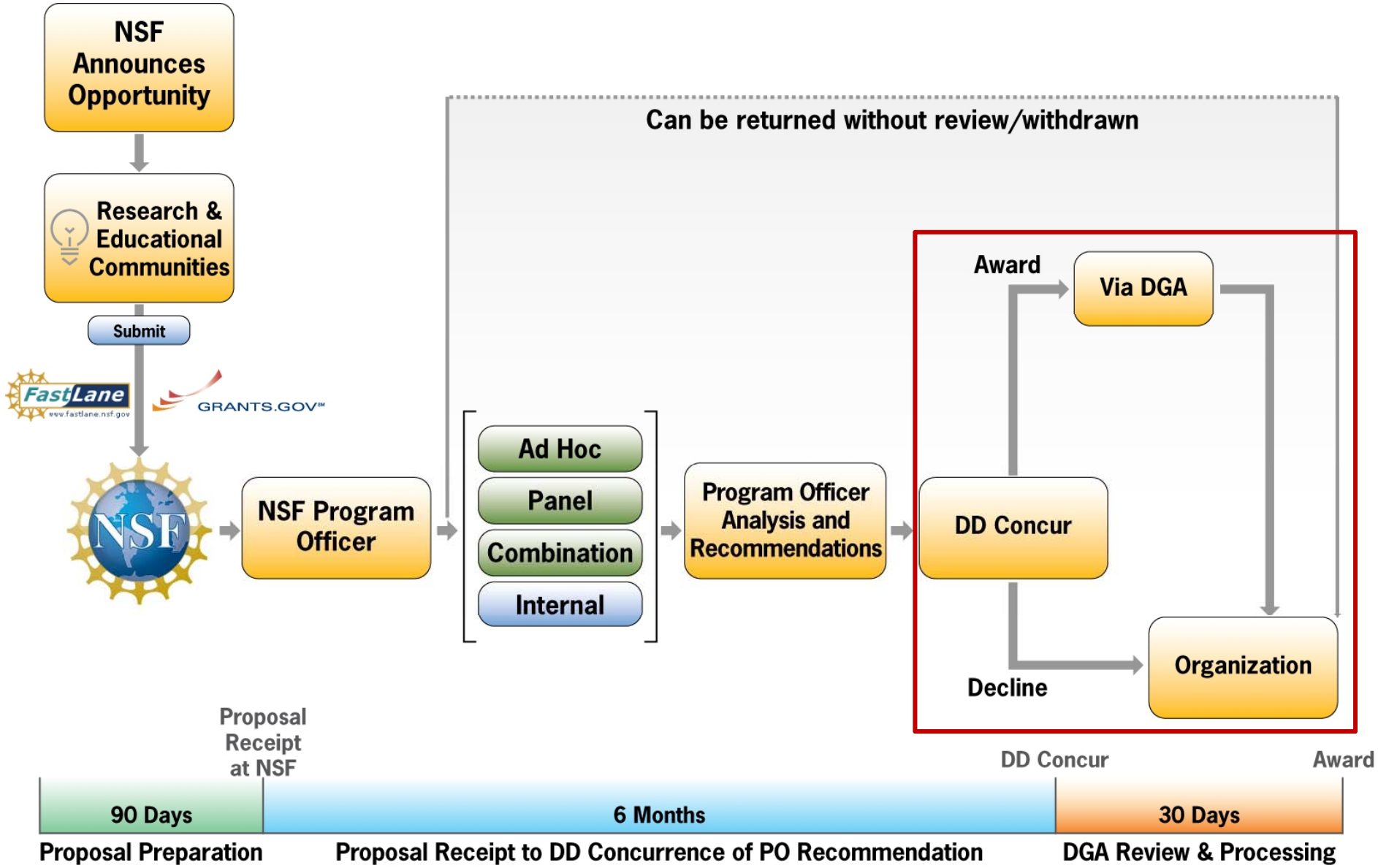
NSF Reconsideration Process

- Explanation from Program Officer and/or Division Director
- Written request for reconsideration to Assistant Director within 90 days of the decision
- Request from organization to Deputy Director of NSF

Possible Considerations for Funding a Competitive Proposal

- Addresses all review criteria
- Likely high impact
- Broadening participation
- Educational impact
- Impact on institution/state
- Special programmatic considerations (e.g. CAREER/RUI/EPSCoR)
- Other support for PI
- “Launching” versus “Maintaining”
- Portfolio balance

Award Processing

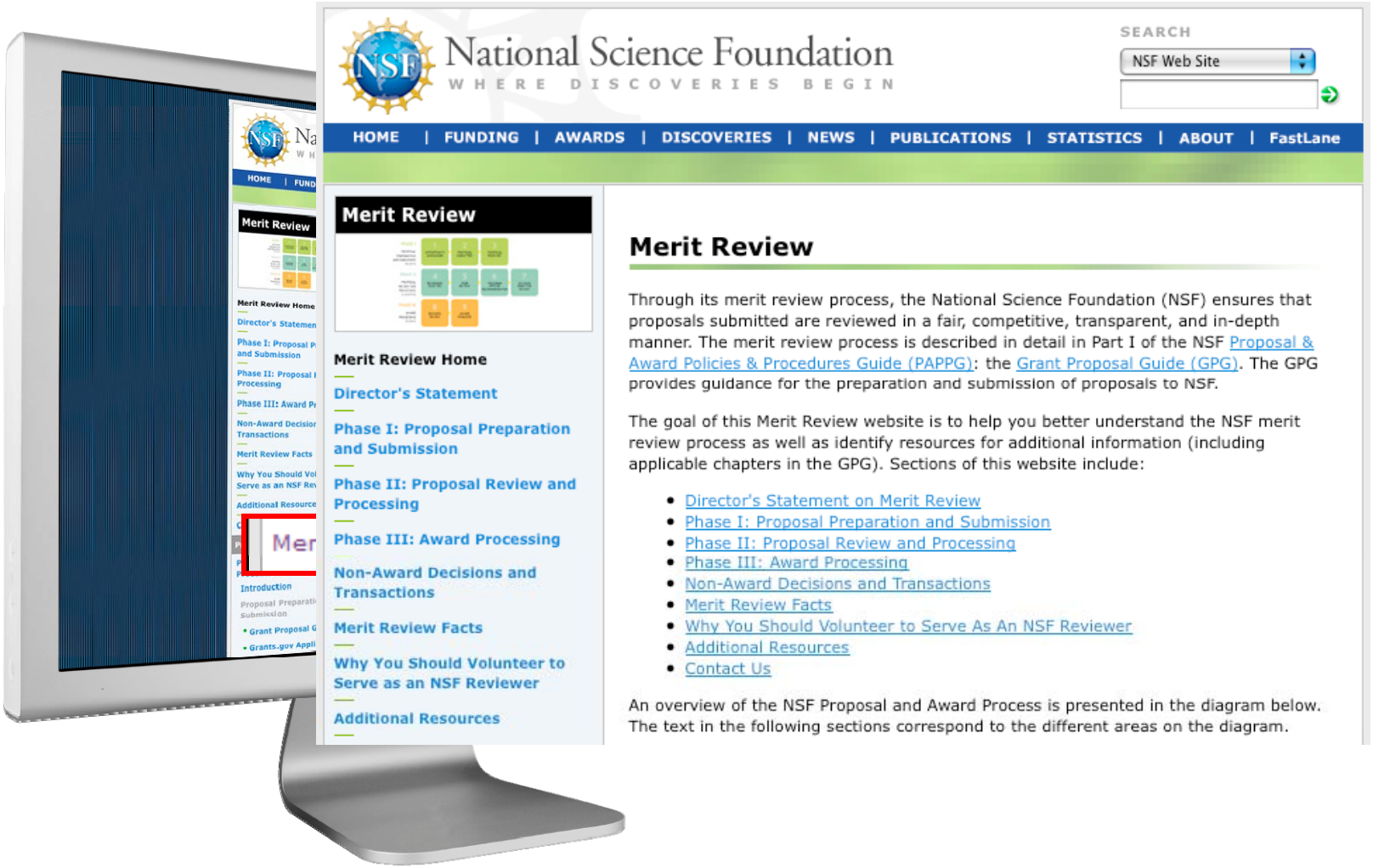


Issuing the Award

- **NSF's Division of Grants and Agreements (DGA) reviews the recommendation from the program office for business, financial, and policy implications.**
- **NSF's grants and agreements officers make the official award as long as:**
  - The institution has an adequate grants management capacity.
  - The PI/Co-PIs do not have overdue annual or final reports.
  - There are no other outstanding issues with the institution or PI.

For More Information

Go to NSF's Home Page (http://www.nsf.gov)



For More Information

Ask Early, Ask Often!

http://www.nsf.gov/staff

http://www.nsf.gov/staff/orglist.jsp