



Discovery Research preK-12 (DRK-12) Program

Division of Research on Learning in Formal
and Informal Settings

Program Solicitation: NSF 20-572
New PAPPG applies: NSF 20-1

Important Dates

**Full Proposals Due
October 7, 2020**

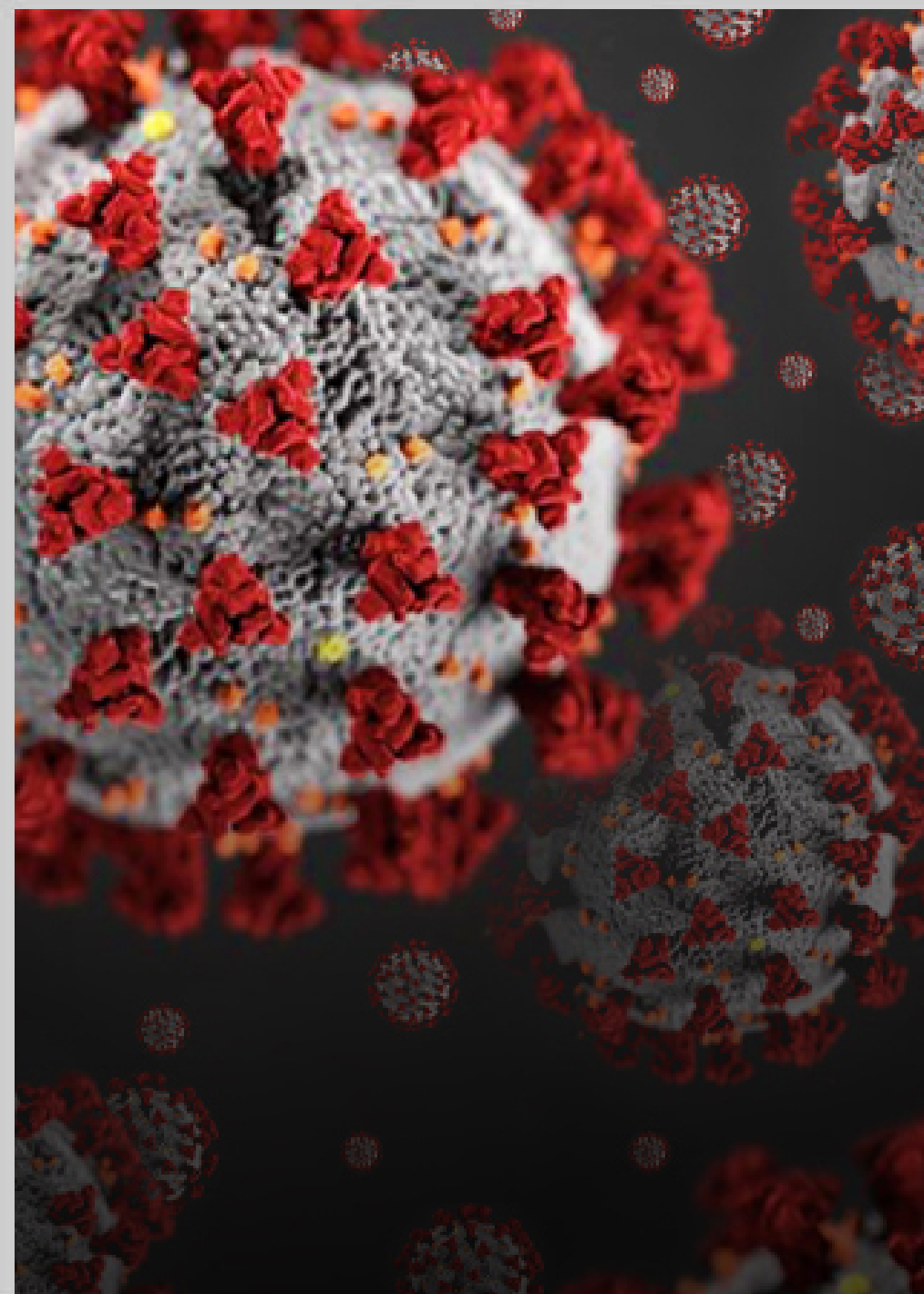


Future deadlines:

- First Wednesday in October, Annually

Overview of the Session

- Describe NSF Policies and Procedures
- Describe the DRK-12 Program & Project Expectations
- Discuss changes in the new solicitation
- Proposal Preparation and Review Process
- Further Information and Resources
- Final Questions



But first...



Research in the time of COVID-19

- [NSF letter to the community](#)
- [FAQs for Proposers and Awardees](#)
- [RAPID response awards related to COVID-19](#)
- [FAQs for Panelists](#)

Please see also the CADRE webinar from May 19th addressing these topics.

Research in the time of COVID-19

- *Don't be deterred in submitting proposals!*
- Think through contingency plans
- Consult with a program officer
- Check in with your SPO and IRB offices

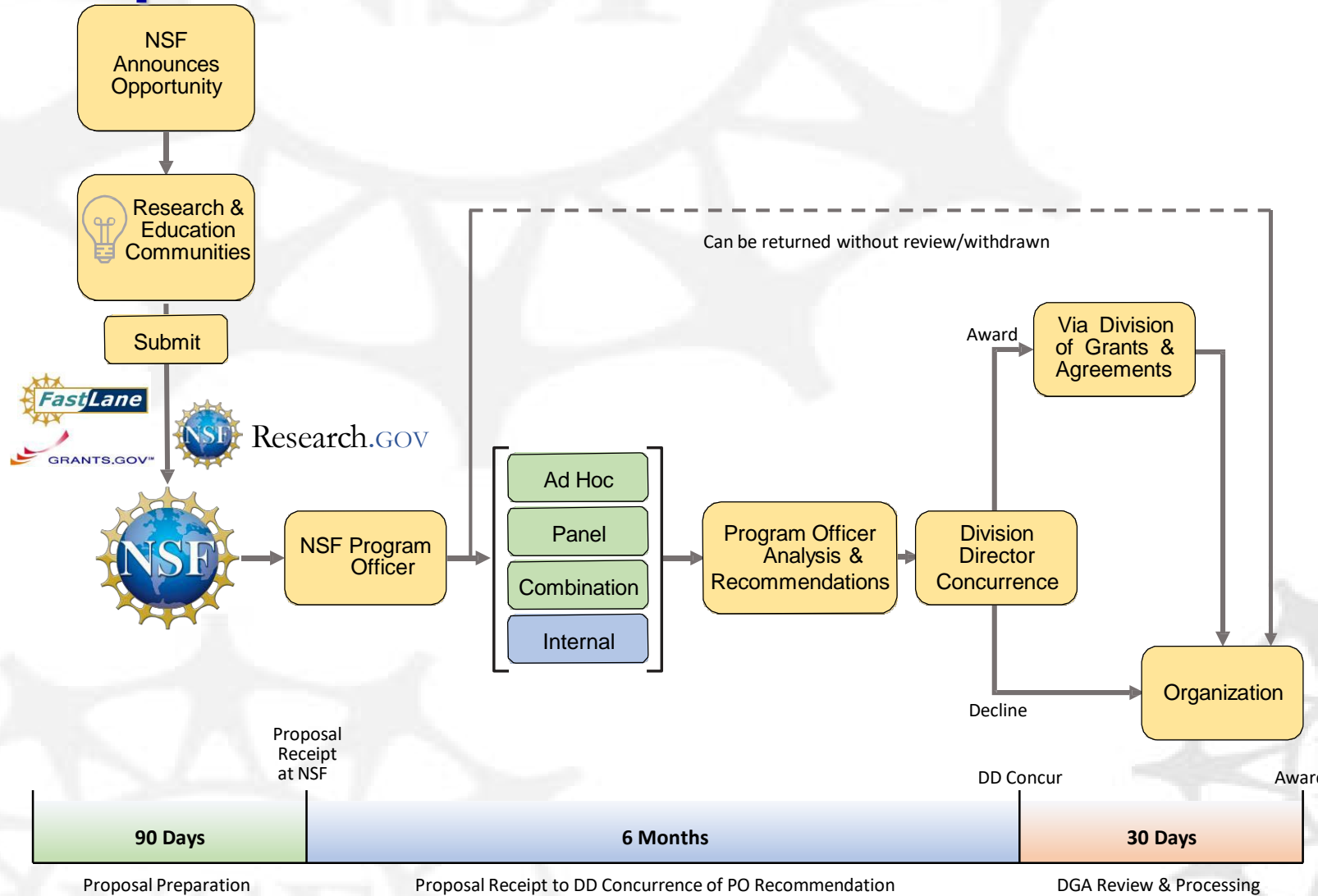
NSF Policies and Procedures

- Proposal and Awards Policies and Procedures Guide (PAPPG)
 - Updated annually, so attend to the one that is in effect at the time of submission (NSF 20-1)
 - Sets all policy for submitting proposals to NSF. Solicitation supersedes the PAPPG.

NSF as a Funding Agency

- Field-driven funder
- DRL funds STEM education in any area of science and/or engineering supported by the agency
- Program Directors are part of the decision-making process, so can only give limited feedback to PIs

Proposal Review Process and Timeline



Eligibility

(Ch. 1 of PAPPG)

- Any organization is eligible to apply. Individuals cannot apply for DRK-12 funding.
 - Must be registered in the SAM.gov system
- Must demonstrate acceptable accounting mechanisms in place to be recommended for funding.
 - Prospective new awardee guide https://www.nsf.gov/publications/pub_summ.jsp?ods_key=pnag
 - Pre-award reviews <http://www.nsf.gov/bfa/dias/caar/index.jsp>
 - Federal requirements for awards <http://www.nsf.gov/bfa/dias/caar/fed.jsp>

Dear Colleague Letters

- *Not* new funding opportunities
- Call the field's attention to existing funding opportunities that will accept proposals in an area
- Example:
 - Dear Colleague Letter: CAREER Proposals Submitted to the Directorate for Education and Human Resources (EHR)
(NSF 20-084)

Other DRL-based programs

- Advancing Informal STEM Learning (AISL)
- EHR Core Research (ECR)
- Innovative Technology Experiences for Students and Teachers (ITEST)
- Computer Science for All (CSforAll)

Goal of the DRK-12 Program

Catalyze research and development of (STEM) education innovations or approaches that can serve as models for use by the nation's formal STEM education infrastructure (e.g., schools, districts, states, teachers).

DRK-12 Funded Projects

- You can find examples of DRK-12 funded projects that will give a sense of what is fundable and their outcomes at the DRK-12 webpage - https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=500047&org=DRL&from=home

Anatomy of the DRK12 Program

Strand

Assessment

Teaching

Learning

Project Type

Exploratory

Design & Development

Impact

Implementation & Improvement

Synthesis

Conference

Funding Level

I: \$450,000, 3 years

II: \$3,000,000, 4 years

III: \$5,000,000, 5 years

Syn: \$600,000, 3 years

Con: \$100,000, 1 year

What's new in the solicitation?

- Clarifications
 - Design & Development Expectations
 - Impact Project type
- Commitment, interest, and focal areas
 - early childhood STEM
 - computer science
 - computational thinking
- Synthesis proposals: up to \$600,000, 3 years

What's new in the solicitation?

Design and Development Projects

- specify the practical problem the project intends to address;
- justify the importance of the problem;
- describe how your idea differs from existing practice
- why your ideas are likely to lead to improvements in practice, teaching, learning, etc...

What's new in the solicitation?

Design and Development Projects, cont.,

- strong theoretical and empirical justification for the proposed approach;
- compelling rationale for how features/components are expected to achieve intended outcomes
- include a well-explicated theory of change or logic model

What's new in the solicitation?

Design and Development Projects, cont.,

- the methods for developing the innovation to the point where it can be used (the iterative development process);
- methods for collecting evidence related to feasibility;
- methods for obtaining pilot data on the promise for achieving the expected outcome.

What's new in the solicitation?

Early Stage v. Late Stage

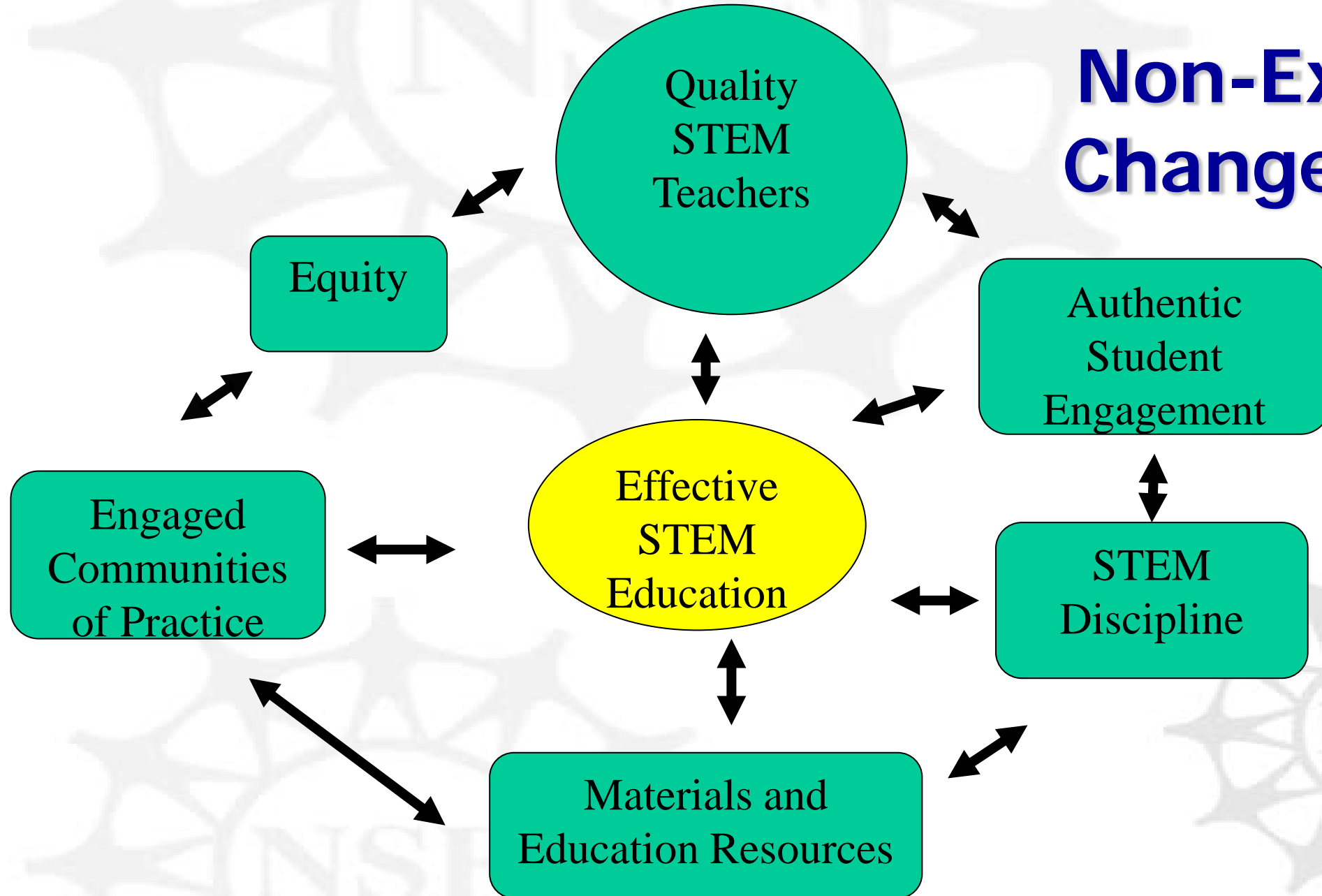
- Both types must be clear on the iterative development process described on previous slides;
- If there is an existing early version or prototype, then it is likely a Late Stage Development proposal;
- Late stage proposals should provide estimates of effect sizes (by the end of the project).

What's new in the solicitation?

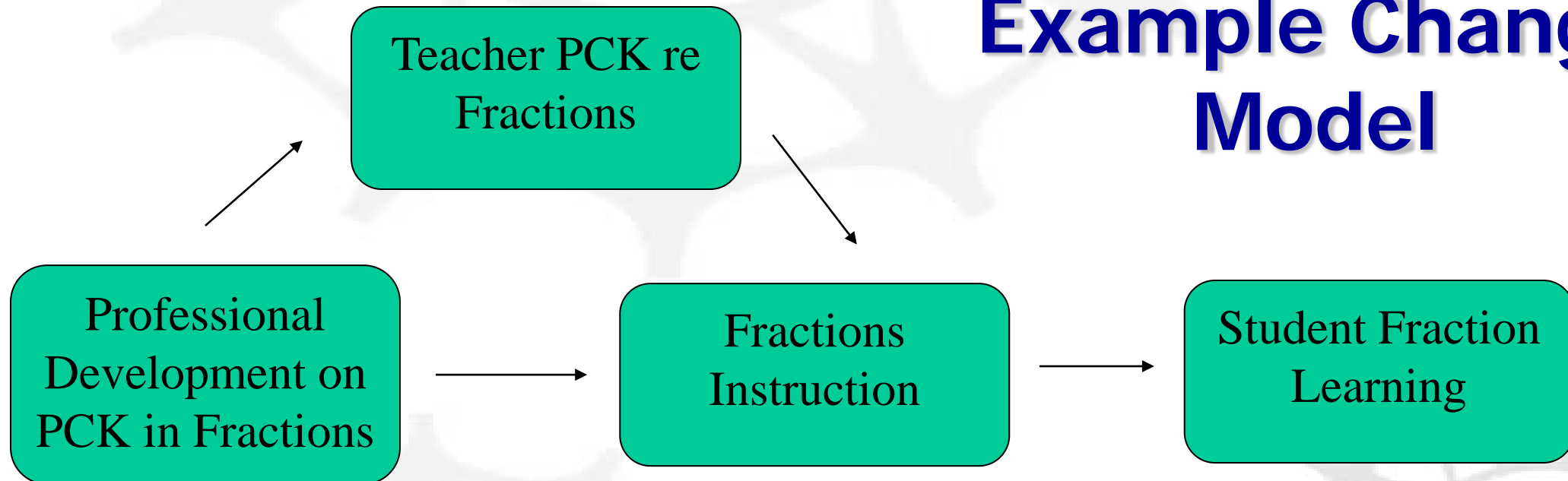
Impact and Synthesis Projects

- New DRK-12 solicitation is much more detailed with respect to submitting Impact projects. Please attend carefully to the design and methodological specifications in the 'Impact Studies' section of the solicitation
- New DRK-12 solicitation also more detailed with respect to expectations for Synthesis proposals. Please review carefully. Limits extended to \$600K and three years.

Non-Example Change Model



Example Change Model



Commitment, interest, and focal areas

- Areas of particular interest for funding
 - Not limiting – projects across STEM will be considered
- Projects involving these areas should still hew to the core DRK-12 mission
- Wondering about fit? Chat with a program officer.

Resource Center

- The DRK-12 program intends to support one or more projects to fulfill the activities for the DRK-12 Resource Center
 - Capacity Building
 - Broadening Participation
 - Technical Support
 - Dissemination

Questions

1. What are the relevant and current Dear Colleague Letters?
2. How many proposals are received? Funding rates for the program?
3. Where can I find examples of funded studies?

Proposal Preparation

- **DRK-12 Solicitation: NSF 20-572**
(Section V. Proposal Preparation and Submission Instructions)
- Proposals must be prepared in accordance with the **PAPPG (NSF 20-1) - See Chapter 2**

Project Summary

- **First Sentence**

- Type of Study- Exploratory, Design and Development (early/late), Impact, Implementation and Improvement, Conferences & Syntheses, Resource Network
- Main strand addressed – Assessment, Learning, Teaching

- **Second Sentence**

- STEM Discipline(s)
- Grade or Age level(s) addressed

- **Intellectual Merit and Broader Impacts**

- Must include separate statements on each of these two NSB criteria

Mechanisms to Assess Success

A proposal must describe appropriate project-specific external review and feedback processes.

- The review might include an external review panel *and/or* advisory board or a third-party evaluator.
- The external critical review should be sufficiently independent and rigorous to influence the project's activities and improve the quality of its findings.
- Successful proposals will:
 - describe the expertise of the external reviewer(s);
 - explain how that expertise relates to the goals and objectives of the proposal; and,
 - specify how the PI will report and use results of the project's external, critical review process.

Supplementary Documents

- Brief letters of collaboration*
- List of personnel on the proposal
- Data Management Plan
- Post Doc Mentoring Plan

NO OTHER DOCUMENTS

*be careful not to include attachments to the letters

Budget

- Should be consistent with level of work – you do not have to request the maximum!
- Two months salary: No more than two months of salary for senior personnel with academic positions on all NSF grants unless justified

Biosketch and Current and Pending Support

PAPPG 20-1 includes new guidance on the format for these items and provides new templates to use.

Submissions that do not use the templates may be returned without review.

Reasons for Return Without Review

- Violation of formatting rules of the PAPPG 20-1 (e.g. font, page length, etc)
- Failure to address specifically intellectual merit and broader impact in the Project Summary
- Unauthorized documents/data in the appendix or supplementary document section
- No post doc plan if post docs are included in budget
- No data management plan

Proposal Review Process

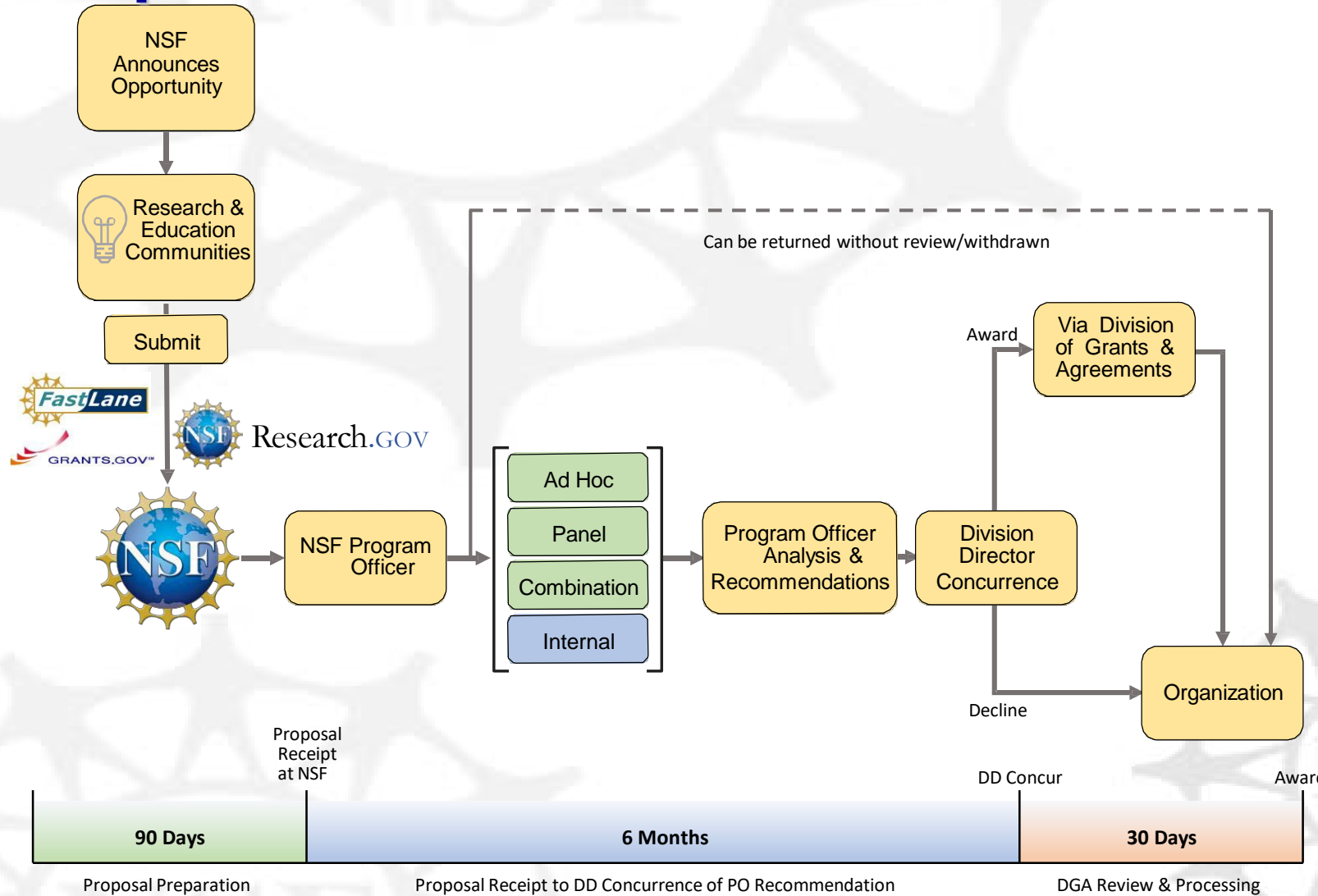
- Proposals are reviewed in panels composed of a range of external experts (e.g. educational researchers, content experts, teachers, developers)

Merit Review Elements

The following elements should be considered in the review for both criteria:

1. What is the potential for the proposed activity to:
Advance knowledge and understanding within its own field or across different fields (Intellectual Merit); and
Benefit society or advance desired societal outcomes (Broader Impacts)?
2. To what extent do the proposed activities suggest and explore creative, original, or potentially transformative concepts?
3. Is the plan for carrying out the proposed activities well-reasoned, well-organized, and based on a sound rationale? Does the plan incorporate a mechanism to assess success?
4. How well qualified is the individual, team, or organization to conduct the proposed activities?
5. Are there adequate resources available to the PI (either at the home organization or through collaborations) to carry out the proposed activities?

Proposal Review Process and Timeline



Questions

1. Is a project evaluation required?
2. What is the most common reason a proposal is funded/not funded?
3. What advice do you have for early career researchers?

For Further Information

- Call 703-292-8620
- Email: DRLDRK12@nsf.gov
- Contact a DRK-12 Program Director

Upcoming Webinar for DRK-12 Grantees

- Managing your DRK-12 Grant
- May 27, 1-2:30pm ET
- Attendance required for all current DRK-12 awardees
- Register here:
 - <http://cadrek12.org/registration-managing-your-drk-12-grant>



**Community for Advancing
Discovery Research in Education**

This webinar was hosted by CADRE, the resource network for the DRK-12 Program.

Webinar slides and recording will be posted to cadrek12.org and emailed to registered participants.

Resources of Interest:

- NSF Proposal Toolkit: <http://cadrek12.org/resources/nsf-proposal-writing-resources>
 - Prior DRK-12 funded work: <http://cadrek12.org/projects>
 - Recent DRK-12 publications: <http://cadrek12.org/reading-list>
- Spotlights on STEM topics: <http://cadrek12.org/spotlights-stem-topics>

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Questions? Email us at cadre@edc.org.

Good Luck!