Competing for the NSF CAREER Award

UMSL | Research Development

Overview

Overview Cont.
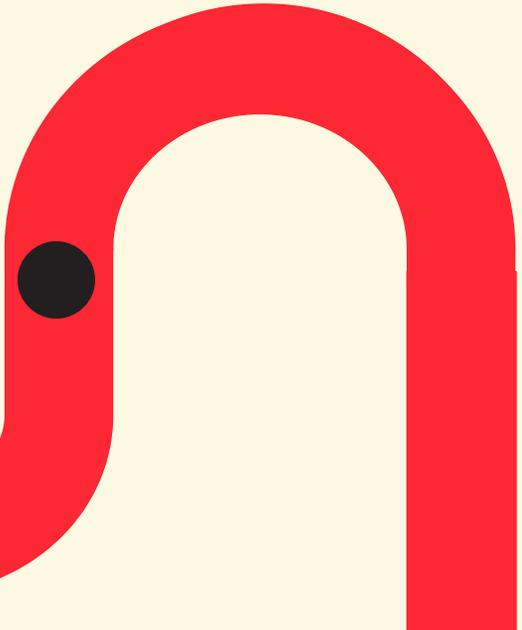
- Foundation-wide; one of NSF's most prestigious awards

- Early-career faculty with potential to serve as academic role models in research and education and to lead advances in the mission of their department/organization

- Activities should build a firm foundation for a lifetime of leadership in integrating education and research

- 5 years/$400,000
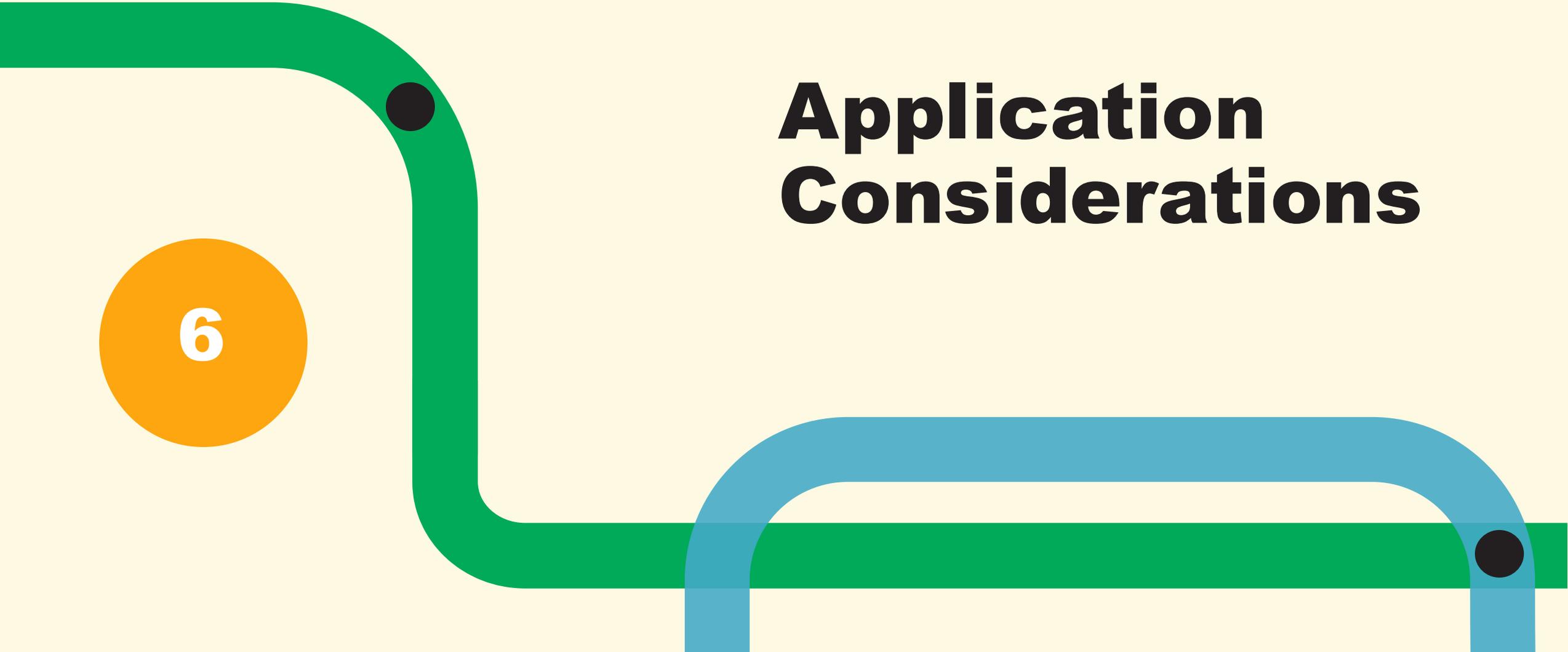
- # of Awards: 500

- Doctoral degree in a field recognized by NSF

- Hold a 50% or more Tenure Track position as Assistant Professor

- Be untenured

- No previous CAREER award

- Limited to 3 applications

Application Considerations

6

- Are you at the right stage in your career?
- Do you have a strong publication/funding/conference record?
- Do you have panel review experience
- Do you have preliminary data
- Does your research idea align with an NSF program area and contextually fit with your dept and organization?
- Have you discussed your ideas with mentors/peers/program officers?
- Have you investigated funding levels of CAREER vs Regular Proposals

Guiding Questions

- Where are you today?

- Research interests and expertise

- Position/Institution/Resources

- What do you want to achieve over the next 10 years as a researcher and educator?

- How do you get there?

Jan-Mar	April	May	June	July
• CAREER plan & 5 Year project • Research project • Resources & collaborators • Circulate Concept paper • Identify NSF Funding home/PO	• Draft Project Description and Summary • Circulate for Feedback • Illustration	• Budget • Justification • Bio • Facilities • Data Management Plan • Other application components	• RD review • Peer review • Integration of feedback • Revision	• Finalize Research Plan & Summary • Final Editing • Submit to NSF

What Reviewers Need to Know

- What is the research about?

- How will you do it?

- Can you do it?

- Is it worth doing?

- Will it provide a strong foundation for career?

Integration of Research & Education

11

Integration of Research & Education (IRP)

- Integrated research and education plan – a path that will lead to a successful career as an outstanding researcher and educator
- No single approach
- Wide range of research and education activities
- How your research will impact your education goals and how the proposed education activities will feed back into your research
- Foster the connection between processes of learning and discovery
- Plans should reflect your disciplinary and educational interests and goals, as well as the needs and context of the organization
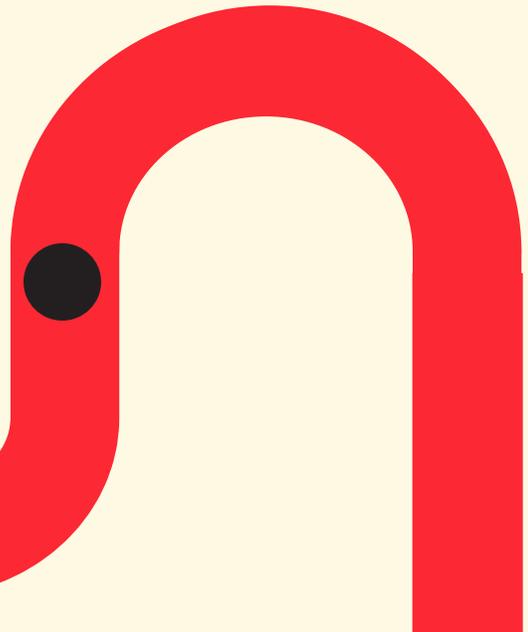
Education Plan

- Goals and motivation

- State of Knowledge – pedagogy and educational citations

- Institutional Context

- Implementation

- Assessment

- May be in a broad range of areas

- Any level: K-12, undergraduate, graduate, and/or the general public

- Should be related to the proposed research and consistent with PI's career goals of the PI.

Examples of Educational Activities

- Incorporating research activities into undergraduate courses
- Teaching a graduate seminar on the topic of the research
- Designing innovative courses or curricula
- Mentored international research experiences for U.S. students
- Linking education activities to industrial, international, or cross-disciplinary work
- Supporting teacher preparation and enhancement
- Outreach and mentoring activities to enhance scientific literacy
- Researching students' learning and conceptual development in the discipline
- Implementing innovative methods for evaluation and assessment;
- Creating cyberinfrastructure that facilitates involvement of the broad citizenry in the scientific enterprise.

Broader Impacts

16

- Research

- Education

- Society

- 2 pages; not a letter of support

- PI Eligibility Statement

- PI's proposed CAREER research and education activities are supported by and advance dept/organizational educational and research goals; dept is committed to the support and professional development of the PI

- Describe a) relationship between the CAREER project, the PIs career goals and job responsibilities, and the goals of his/her department/organization and b) the ways in which the dept chair will ensure the appropriate mentoring of the PI, in the context of the PI's career development and his/her efforts to integrate research and education throughout the project

- Demonstrate understanding of and commitment to the effective integration of research and education

Common Flaws

19

Common Flaws

- Research and education do not align or ever intersect; disconnected activities

- Applicant proposes little more than existing job responsibilities

- Overlooking that education, mentoring, teaching, and outreach are part of a successful academic career

- Plan that is too narrow to justify five years of funding

- No assessment of educational activities

- Treating CAREER proposal as a regular proposal rather than one lays out an independent long-term academic trajectory

- Incremental vs transformational research

- Using words without substantiating them such as innovative, novel, transformative, first ever..

- Failure to convince reviewers that you will succeed and become a major player in the field

- Mistakes in the science

- Missing key references/failure to demonstrate deep knowledge of field

- Poor Proposal Quality: writing, presentation, organization, visuals

- Weak dept letter

Resources

UMSL:

Center for Teaching and Learning

MIssouri Extension St. Louis County

Des Lee Collaborative

Community Innovation and Impact Center

External:

Faculty Early Career Development Program (CAREER)

Advancing Research Impact in Society

AAAS

People Who Can Help

Cynthia Jobe
Director, Research Development

Mary Nguyen
Proposal Illustrator

Derek Gove
Senior Grants & Contracts Administrator

Mentors, Dept Chair

How the RD Team Can Help

- Interpret guidelines and create shell documents
- Develop and manage project timeline
- Help prepare you for Program Officer Conversations
- Help conceptualize Broader Impacts strategy
- Help contextualize education plan
- Connect to evaluation resources
- Draft Dept. Letter, Facilities & Resources and other non-science components; Institutional data and boilerplate
- Develop or refine illustrations and other visuals
- Connect to internal and external peer reviewers
- Review proposal for responsiveness to guidelines, logic and clarity
- Editing and visual formatting
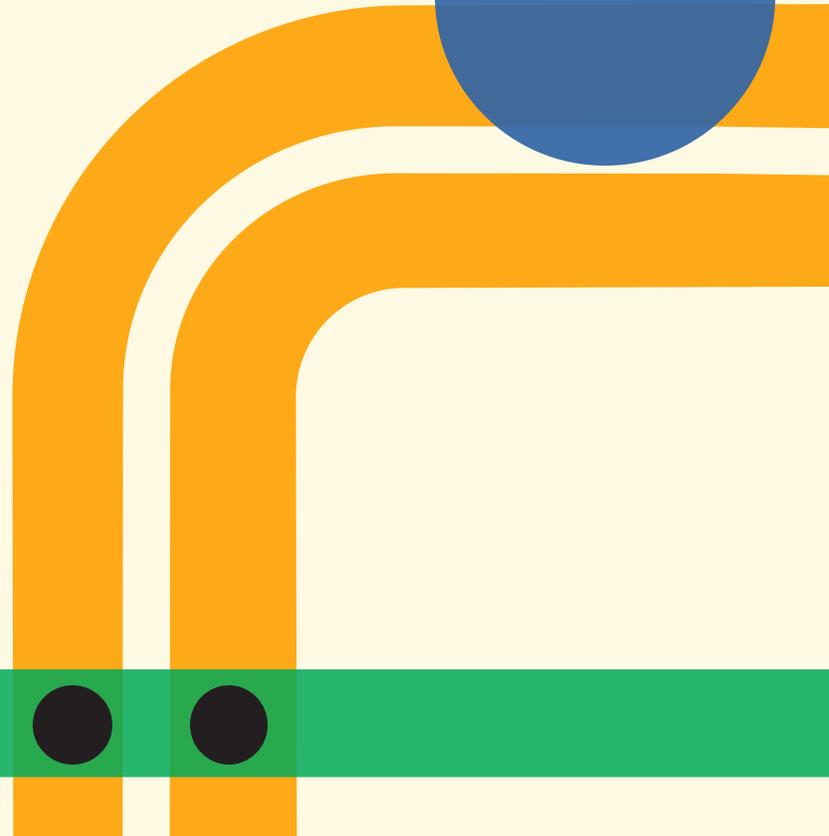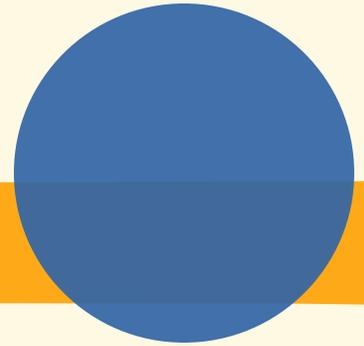
Thank you

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