



NATIONAL SCIENCE FOUNDATION
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ARLINGTON, VIRGINIA 22230

NSF 16-028

Dear Colleague Letter: Germination of Research Ideas for Large Opportunities and Critical Societal Needs (GERMINATION)

November 23, 2015

Dear Colleagues:

Today, with growing and aging population, we are facing many societal challenges including pressing demands for food, land, energy and water, urgent need for educating students from diverse backgrounds, requirement of security in an increasingly connected world, more effective and affordable healthcare, and sustainable economic growth for employment. These and other such challenges are likely to become even more important in the coming years. At the same time, they represent potentially large and fertile opportunities for science and engineering research for advancement of society. It is ever more critical to conceive and conduct fundamental research that holds the promise of unlocking these big opportunities and addressing important societal needs, thus enhancing our quality of life, security, and economic competitiveness.

This Dear Colleague Letter (DCL) seeks EAGER ([EARly-concept Grants for Exploratory Research](#)) proposals with exploratory ideas to design learning frameworks, platforms and/or environments to enable participants to conceive research ideas and questions with potentially transformative outcomes.

Motivating Question: *How can effective learning frameworks, platforms and/or nurturing experiential environments be designed in which early- and mid-career faculty, as well as graduate students and post-doctoral fellows can be stimulated to germinate transformative research ideas and questions to open large opportunities that address important societal needs?*

EXPECTED OUTCOME

This DCL aims to stimulate new approaches in cultivating a risk-taking and impact-driven research culture.

NSF welcomes novel approaches to educate and nurture early- and/or mid- career faculty, as well as graduate students and post-doctoral fellows to develop research concepts and questions that are not only transformative, but also with the potential to address important societal needs. Proposals should focus on the development of key skills and mindsets that will increase the capacity of participants to identify big opportunities, think creatively, explore novel research formulations, and take intellectual risk.

Proposals should clearly identify the targeted participants. The proposed learning frameworks, platforms and/or environments should be designed to match the needs of targeted participants. The targeted participants may include any of the following: early- and/or mid-career faculty, graduate students, and/or post-doctoral fellows.

Proposers are strongly encouraged to design their exploratory approaches as creatively as possible, building on relevant knowledge from social/behavioral sciences and science of research organizations. **A plan to pilot the approach and test the effectiveness of the approach must be included.**

Proposals may choose to focus on one or a few research domains or be broad and allow all research domains. Multidisciplinary convergence types of approaches are highly encouraged. There is no constraint on the academic backgrounds of participants who can come from one or multiple institutions with a variety of academic backgrounds as appropriate.

EVALUATION

While it is not viable to demonstrate long-term outcome of proposed projects in 12 months, submitters must have a plan to assess and document, in a meaningful way, the interim effectiveness of proposed approaches on (a) the participants in terms of how their ability and interest are enhanced in germinating research ideas and questions to open large opportunities that address important societal needs; and (b) how likely it is for the proposed approaches to be scalable and adaptable beyond the institutions involved in the study.

SUBMISSION

This DCL is not a special competition or new program. EAGER proposals in response to this Dear Colleague Letter must meet the requirements of NSF's Grant Proposal Guide (see Section II.D.2 at http://www.nsf.gov/pubs/policydocs/pappguide/nsf15001/gpg_2.jsp#IID2) and the review criteria of the program to which they are submitted. As noted in the GPG, **EAGER** is a funding mechanism for supporting exploratory work in its early stages on untested, but potentially transformative, research ideas or approaches. **Please be sure that the title of your proposal starts with "EAGER Germination".**

BUDGET

A total of 10-12 awards are expected. The duration is limited to one year with a total budget of up to \$100K per award. The PI is encouraged to request a travel budget for the PI and key associates to visit NSF for a project review.

PI ELIGIBILITY

There is no constraint on the role of a Principal Investigator (PI) within an institution. In the proposal, it is critical to demonstrate that the PI is committed to lead a culture of change and is enthusiastic at mentoring early- and/or mid- career faculty, graduate students, and post-doctoral fellows.

SUBMISSION DEADLINE

Proposals must be submitted by 5 PM on January 19, 2016 of submitters' local time.

CONTACT

Interested investigators are encouraged to contact Mr. Garie Fordyce at gfordyce@nsf.gov with a one-page concept paper explaining the core idea of their project before submission.

Further guidance may be sought from:

- Sohi Rastegar (Primary Contact), srastega@nsf.gov
- Grace Wang, jiwang@nsf.gov

WEBINAR

A webinar will be held on December 10, 2015 to discuss this DCL and answer questions. Please visit <http://www.nsf.gov/eng/efma> for more information about the webinar.

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