



NATIONAL SCIENCE FOUNDATION
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NSF 20-121

Dear Colleague Letter: Seeking Community Input for Topic Ideas for Emerging Frontiers in Research and Innovation (EFRI) Program

September 4, 2020

Dear Colleagues:

The purpose of this Dear Colleague Letter (DCL) is to invite the research community to submit suggestions for Topic Ideas to be considered for the FY 2022 [Emerging Frontiers in Research and Innovation \(EFRI\) Program](#) Solicitation. Suggestions for EFRI Topic Ideas are currently solicited and vetted every two years. Selected Topic(s) become the focus of research supported by the EFRI Program. Solicitations are announced annually for research proposals that fall under the specified Topic area(s).

This DCL is not a request for submission of a single research proposal idea; rather, it is designed to solicit submission of emerging topic areas of potentially transformative research and innovation. Candidate topic ideas, including a 500-word description, may be submitted at: <https://www.surveymonkey.com/r/efritopicideasFY2022>.

The deadline for topic idea submission is: **October 30, 2020**.

BACKGROUND

The [EFRI Program](#) aims to focus the engineering community on important emerging areas in a timely manner. EFRI evaluates, recommends, and funds interdisciplinary initiatives at the emerging frontiers of engineering research and innovation. These transformative opportunities may lead to: new research directions; new industries or capabilities that result in a leadership position for the country; and/or significant progress on a recognized national or societal need, or grand challenge. The EFRI Program is the signature activity of the [Office of Emerging Frontiers and Multidisciplinary Activities](#) (EFMA) in the Directorate for Engineering.

EFRI invests in high-risk multidisciplinary opportunities with high-potential payoff. Its role is to support research areas that would not fit within the scope of an existing program. These

frontier ideas cannot be pursued by one researcher or within one field of expertise. They are "frontier" because they not only push the limits of knowledge of one field, but are actually at the intersection of multiple fields. The EFRI program aspires to both inspire and enable a group of researchers with diverse technical expertise to work together on a single frontier idea with substantive potential for societal impact.

The EFRI Program continuously gathers information for use in deciding future research topic areas to support. This rolling process ensures input and feedback from the engineering community on promising upcoming research opportunities. Input comes from diverse sources including workshops, advisory committees, proposals and awards, technical meetings, and professional societies, as well as from individual engineering researchers. From this comprehensive input, the EFRI team identifies, evaluates, and prioritizes those frontier topics that best match EFRI criteria.

Through this DCL, the NSF EFRI team is providing a direct opportunity for the research community to offer input on potential topic ideas for FY 2022, by inviting the community to submit emerging frontier Topic Idea suggestions for consideration. This opportunity is open to all disciplines, but topic ideas should have engineering research at their core.

Submit Your Ideas at: <https://www.surveymonkey.com/r/efritopicideasFY2022>.

Topic Idea submitters will be asked to provide: Name, E-mail address, Organization, Title of Proposed Topic, up to three Key Words, and a Description (maximum 500 words) that encompasses how the suggested topic meets EFRI topic criteria: transformative, addressing a national need or grand challenge, and with a leadership role for Engineering.

NOTE: Ideas you submit should provide forward-looking views and identify opportunities in emerging frontiers of research and innovation. Topic ideas should not simply represent your own ongoing or planned research activities. Suggested topics should identify challenges or opportunities rather than solutions. Topics or areas of opportunity should be those that would be unlikely to be supported through existing NSF programs. In order to facilitate broader discussion of the submitted ideas, topic suggestions will not be kept confidential. NSF staff will review submitted candidate topic ideas in consultation with external experts. NSF plans to invite up to ten submitters to engage with NSF for further discussions of their proposed topic. Those submitters selected will be notified in December 2020 and will be invited to present their frontier idea suggestions to NSF in early 2021.

Inquiries may be directed to: Dr. Louise R. Howe or Dr. Sohi Rastegar at efritopicideas2022@nsf.gov.

We thank you in advance for taking the time to submit your emerging frontier ideas to the NSF Directorate for Engineering.

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