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To:        Distribution List

From:      Faculty Research Development Office (FRDO)
           Office of the Vice President for Research

Subject:   Limited Competition: NSF: GERMINATION: Germination of Research Questions for
           Addressing Critical Societal Challenges, (NSF 21-594)

Date:      July 9, 2021

UNM Researchers,
The NSF Directorate for Engineering GERMINATION program aims to foster the development of pedagogical
frameworks, platforms and/or environments to enable participants to formulate research questions and ideas
with potentially transformative outcomes. The extraordinary response of the STEM research community to the
COVID-19 pandemic, exemplified by the record-breaking speed of novel vaccine development, highlights the
outstanding capabilities at all levels of the research enterprise. The GERMINATION program seeks to harness
the immense capacities of academic researchers to similarly address other critical global challenges through
supporting the development of new pedagogical approaches that train researchers to formulate and develop key
research questions.

The GERMINATION program invites proposals to design, test, evaluate and implement pedagogical
frameworks, platforms and/or environments that enable participants to formulate research questions and ideas
that have the potential to address critical societal challenges. In order to catalyze development of novel
approaches, while simultaneously expanding the reach of pilot approaches which are already exhibiting
promise, two tracks will be supported in Fiscal Year (FY) 2022: GERMINATION Innovation and
GERMINATION Expansion. GERMINATION **Innovation** awards will fund projects to design, test and
evaluate previously unexplored pedagogical frameworks, platforms and/or environments that have the explicit
goal of enabling the participants to formulate research questions with potentially transformative outcomes.
Projects submitted to the Innovation track must use the EArly-concept Grants for Exploratory Research
(EAGER) proposal type (see PAPPG Chapter II). GERMINATION **Expansion** awards will fund projects that
focus on development, implementation and scaling of evidence-based strategies for achieving GERMINATION
goals. Projects supported under the Expansion track should focus on scaling previously piloted approaches with
demonstrated efficacy to a regional or national sphere of activity, and will likely involve development of new
collaborative relationships to establish networks capable of implementation beyond the pilot institution.

Anticipated funding is as follows, 4-5 GERMINATION **Innovation** awards are anticipated; the budget for
GERMINATION Innovation proposals is between $100,000 and $300,000 total for a duration of one to two
years. These GERMINATION *Innovation awards will be made using the EAGER proposal type*. 4-5
GERMINATION **Expansion** awards are anticipated; the budget for GERMINATION Expansion proposals is
up to $500,000 total for a duration of up to three years. A *required* letter of intent is due by August 27, 2021,
with full proposals due on October 29, 2021. See the following link for further details:
https://www.nsf.gov/publications/pub_summ.jsp?WT.z_pims_id=505912&ods_key=nsf21594

**This is a limited competition; each institution is limited to one proposal. We will be conducting a two-step internal competition to ensure we have a review committee in place by the pre-proposal deadline. <u>You must complete both steps if you are interested in participating</u>.**

**STEP ONE:** Submit a **statement of interest to limited@unm.edu by NOON, Tuesday, July 20, 2021** that includes: a tentative project title and the names and departments of all senior personnel.

**STEP TWO: Submit your 3-page preproposal (plus budget and CV; all documents in a SINGLE PDF file, 11 point font) by NOON on Tuesday, July 27, 2021 to limited@unm.edu with the subject line indicating: GERMINATION- your name.** No late submissions will be considered. *Please note*: Individuals may participate as either PI or co-PI in only one proposal submitted to this solicitation. Investigators who have previously received a GERMINATION EAGER are not eligible to receive an award under the GERMINATION Innovation track of this solicitation.
The 3-page pre-proposal should address the major points that will be included in the proposal narrative.

GERMINATION **Innovation** pre-proposals should address the following criteria:
- Include a statement of confirmation indicating that you have contacted an NSF Program Officer. (Innovation track proposals must be submitted as an EAGER and require that the PI obtain Program Officer approval for submission of an EAGER proposal in response to this solicitation.)
- The title must include the prefix "EAGER GERMINATION"
- Include clear statements as to why this project is appropriate for EAGER funding, including why it does not fit into existing programs and why it is a good fit for EAGER.
- *Goals and Objectives*: Clearly state what pedagogical framework, platform and/or environment will be piloted, together with goals for what this will achieve for the participants, as well as for the institution where appropriate.
- *Rationale and Context*: Provide the rationale for the planned approach including prior supportive evidence or a motivating theory of change. Clearly articulate the underpinnings provided by relevant social science and/or education research.
- *Research Team*: Provide a description of the constituent members of the research team, delineating what expertise each member brings to the project, and how their knowledge and skillsets will contribute to successful project outcomes.
- *Research and Evaluation Plan*: GERMINATION Innovation projects must have a research plan that will enable the research team to effectively pilot and evaluate a novel pedagogical approach. A coherent evaluation plan is an essential component. Evaluation should include monitoring of the activities, to ensure the project stays on track, and also analysis of the outcomes of the project, using clearly reasoned metrics to understand the success of the piloted approach. Evaluation of outcomes should be designed to furnish data on whether the participants have increased ability, and interest, in germinating research questions and ideas that address important societal needs.
- *Roadmap for Scaling*: The intended goal of GERMINATION Innovation projects is to lead to development of novel approaches to enhance the ability of academic researchers to formulate potentially impactful research questions. Ideally, successful piloted approaches will be succeeded by broader deployment within the research community. Proposals should therefore include a roadmap for how success in this pilot would be extended beyond the initial testbed to achieve regional or national impact.

GERMINATION **Expansion** pre-proposals must address the following criteria:
- The title must include the prefix "GERMINATION Expansion"
- *Goals and Objectives*: Clearly state what pedagogical framework, platform and/or environment will be implemented, together with goals for what this will achieve for the participants, as well as for the institution where appropriate.

- *Rationale and Context*: Provide the rationale for the planned approach including prior supportive evidence obtained in earlier studies which justifies development and expansion of the approach. In the absence of pilot data, a well-supported rationale for why the proposed approach is expected to yield successful outcomes is essential.
- *Research Team*: The proposal should include a description of the constituent members of the research team, delineating what expertise each member brings to the project, and how their knowledge and skillsets will contribute to successful project outcomes. Previous experience with the proposed approach should be described.
- *Scaling*: GERMINATION Expansion projects should provide a clear plan for their proposed study for scaling their approach beyond the original institutional testbed, including a consideration of how barriers identified in preliminary studies will be overcome during this larger scale implementation. Proposers should also identify, and discuss potential solutions to, novel challenges arising from deployment at scale.
- *Evaluation Plan*: GERMINATION Expansion projects must have a coherent evaluation plan that will enable the research team to effectively evaluate their pedagogical approach. Evaluation should include monitoring of the activities, to ensure the project stays on track, and analysis of the outcomes of the project, using clearly reasoned metrics to understand the success of the scaled approach. Evaluation of outcomes should be designed to furnish data on whether the participants have increased ability, and interest, in germinating research questions and ideas that address important societal needs. Ideally metrics will have been established and validated during pilot studies.
- *Dissemination Plan*: Provide a plan for disseminating the validated approaches from this study to other departments and institutions. Include discussion of challenges and strategies to adaptation in new settings.

The 3-page narrative should be accompanied by an additional **draft budget overview** and an **abbreviated PI CV (not counted toward the 3-page narrative).**

Should you have any questions please feel free to contact us at limited@unm.edu.

*If you are affiliated with HSC, please contact Corey Ford (CFord@salud.unm.edu) or Cassandra Misenar (CMisenar@salud.unm.edu) for more information.*