

To: Distribution List

From: Faculty Research Development Office  
Office of the Vice President for Research

Subject: Limited Competition: NSF Partnerships for Research and Education in Materials (PREM), NSF 24-512

Date: December 21, 2023

The Division of Materials Research (DMR) Partnerships for Research and Education in Materials Research (PREM) program aims to enable, build, and grow partnerships between minority-serving institutions and DMR-supported centers and/or facilities to increase recruitment, retention, and degree attainment (which collectively define the PREM pathway) by members of those groups most historically underrepresented in materials research, and at the same time support excellent research and education endeavors that strengthen such partnerships. Each PREM proposal must be submitted in partnership with one or more DMR-supported centers and /or facilities. The proposal typically includes a subaward to the DMR supported center and/or facility, consistent with the proposed partnership activities. The list of eligible partners can be found in the NSF solicitation.

Information about current PREMs and a description of the PREM framework can be found at <https://prem-dmr.org/>.

The PREM program activity is expected to enhance both the quantity and quality of materials research and education opportunities for students and faculty members at minority-serving institutions, and to demonstrably lead to broadened participation in materials research. These opportunities result from long-term, multi-investigator, collaborative research and education partnerships that define a framework wherein a supportive and stable PREM pathway for promoting inclusiveness in STEM is designed and built. In this context, the framework includes the partnership, the pathway (i.e., the recruitment/retention/degree attainment paradigm), as well as essential research and education elements that collectively propel the participants' progression along the pathway. Additionally, the PREM activity may also contribute to and strengthen broadening participation efforts at partnering institutions (i.e., the DMR-supported centers and facilities).

A PREM typically encompasses research thrust(s) that involve several faculty members addressing materials research topic(s). Sustained support is developed through a collaborative effort by the participants from both partnering institutions that is based on common intellectual interests(either pre-existing or newly identified) and complementary backgrounds, skills, and knowledge. Ideally, a PREM proposal defines a vision for the partnership that simultaneously promotes inclusiveness and research excellence; the proposed research should be aligned with research supported by DMR.

Successful PREMs are expected to:

- Engage in compelling scientific materials research: research thrust(s) must have a well-integrated research program with compelling intellectual merit and broader impacts. Each thrust must demonstrate clear benefits from a collaborative approach, which in turn defines the research and education partnership.
- Promote inclusion of participants from underrepresented groups in the PREM pathway covering all or a segment of the recruitment/retention/degree-attaining sequence through opportunities in science learning and training. These opportunities are the result of applying the elements from the PREM framework in the PREM pathway. Challenges and progress throughout the stages of recruitment, retention, and degree attainment are addressed, as appropriate.
- Propose either existing or newly designed elements in the framework that will successfully promote broadening participation efforts and research output in materials research at the partnering institutions. The proposed elements must clearly define purpose, challenges, and expected outcomes towards broadening participation and increasing research output.

- Provide metrics: PREM partners propose specific metrics with which the partnership will be evaluated. The metrics will emphasize increase in both quality and quantity of research and broadening participation measured relative to the beginning of the award in each partnership. Successful PREMs can be developed regardless of differences in starting research and capacity levels at the lead institution.
- Specify gains: Each partner must specify anticipated gains both in terms of broadening participation and research output. Using the metrics identified in the proposal, gains will be evaluated and assessed within the context of the segment in the PREM pathway that a specific partnership is targeting.
- Establish reciprocity: Reciprocal faculty and student exchanges are a core component of the partnership. Scientific and educational collaboration among all partners with measurable benefits to all are key attributes of a successful PREM.

A PREM may address any area of research supported by the NSF Division of Materials Research which includes 8 programs, known as **Topical Materials Research Programs (TMRP)**: Biomaterials (BMAT), Ceramics (CER), Condensed Matter Physics (CMP), Condensed Matter and Materials Theory (CMMT), Electronic and Photonic Materials (EPM), Metals and Metallic Nanostructures (MMN), Polymers (POL), and Solid State and Materials Chemistry (SSMC). For a detailed description of the research supported by the 8 core programs visit: <https://www.nsf.gov/materials>.

The proposed budget can range from \$300,000 to \$700,000/year for up to a period of 6 years. Full proposals are due March 12, 2024. For more information see the following link: <https://www.nsf.gov/pubs/2024/nsf24512/nsf24512.htm>.

**This is a limited competition.** Only **one** PREM proposal may be submitted in response to this solicitation by an eligible organization as the lead. We will be conducting a two-step internal competition to ensure we have a review committee in place by the pre-proposal deadline. **You must complete both steps if you are interested in participating.**

**STEP ONE:** Please submit your 200-word **statement of interest** including a list of anticipated participating UNM senior personnel with their departments, applicable Topical Materials Research Programs (TMRP), and name of partnering DMR-supported center institution by **NOON on January 19, 2024** via UNM's [InfoReady Review portal](#). This is a required step and no late submissions will be considered.

**STEP TWO:** Submit your **4-page pre-proposal** plus coversheet, budget overview, abbreviated CVs, and references cited; by **NOON on January 25, 2024** via UNM's [InfoReady Review portal](#). No late submissions will be considered.

The limited competition pre-proposal to UNM must include:

- A cover sheet that lists the project title, applicable Topical Materials Research Programs (TMRP), and name of partnering DMR-supported center institution, and all senior personnel with each person's institution and contact information
- 4-page pre-proposal must address the following:
  - Goals of the proposed partnership that will enable the PREM pathway through increasing recruitment, retention and degree attainment by underrepresented minorities in materials research.
  - Description of the role of the DMR-supported center or facility.
  - Description of how the proposed research and education partnership will contribute to increase the quantity and quality of research and education at UNM.
  - Describe the role and intellectual contribution of each faculty member associated with the PREM; briefly outline the resources available and plans to accomplish the research goals.
  - Describe the plans for student/faculty reciprocal exchange between partnering institutions.
  - Overview of how the partnership will be evaluated throughout the project.
- Budget overview.
- Abbreviated biosketches for PI and Co-PIs in a single PDF document.
- References cited (if applicable).

Should you have any questions please feel free to contact us at [limited@unm.edu](mailto:limited@unm.edu).

*If you are affiliated with HSC, you must submit your application materials to HSC Limited Competitions at [HSC-LimitedComps@salud.unm.edu](mailto:HSC-LimitedComps@salud.unm.edu)*