



Call for Proposals - Center Nucleation Grants

Overview

The Hopkins Extreme Materials Institute (HEMI) invites proposals for *Center Nucleation Grants*, which are seed investments designed to catalyze bold and interdisciplinary teams tackling grand challenges in materials research. These awards aim to accelerate the formation of collaborative efforts that can mature into large-scale, externally funded research centers within HEMI.

Successful proposals will align with the overall HEMI mission to understand and design materials and structures that are pushed to their limits, operate under extreme conditions, or display unprecedented functionality, yet will grow the disciplinary reach of the institute. Projects that bridge disciplines (e.g., materials science, mechanical engineering, physics, chemistry, applied math, data science) and connect fundamental science to application domains are strongly encouraged.

Award Details

- **Anticipated Funding Level:** Up to \$10,000 per year
- **Duration:** 1-2 years (renewal for a second year is contingent upon satisfactory progress in Year 1, as evaluated by a meeting with HEMI leadership)
- **Anticipated Number of Awards:** 2-4
- **Anticipated Costs:** Travel for team building and proposal development, workshops and symposia costs, development of proposal materials, etc.

Proposal Components (max 2 pages, excluding references)

1. **Vision and Grand Challenge**
 - a. Define the problem and its significance to extreme materials and HEMI's mission.
2. **Teaming and Collaboration Plan**
 - a. Roles, complementary expertise, governance, and mechanisms for integration (e.g., shared datasets, joint experiments, co-advised trainees).
 - b. Projected usage of grant funds, with justification.
3. **Center Trajectory**
 - a. Pathway to external, center-scale funding (target solicitations, timeline, partners, and differentiators). A balanced portfolio is encouraged, which identifies both large, high-risk opportunities as well as higher-probability and lower-risk targets. For example, a center may target a baseline of support from smaller grants while pursuing a large external center project.
4. **Outcomes and Impact**
 - a. Expected scientific advances, enabling capabilities, workforce development, and broader impacts.



Evaluation Criteria

- **Transformative Potential:** Novelty, ambition, and potential to redefine capabilities in extreme materials
- **Alignment with HEMI:** Relevance to extreme conditions and/or unprecedented functionality
- **Team Strength and Integration:** Complementarity, interdisciplinarity, and quality of collaboration plan
- **Feasibility and Milestones:** Clarity of approach and likelihood of meaningful progress within the award period
- **Center Trajectory:** Credible plan to evolve into a major center with external funding

Program Expectations

- Provide brief annual updates to HEMI Leadership
- Organize at least one **team-building** (e.g., proposal writing retreat) or **community event** (e.g., focused workshop)
- Submit at least one **center-scale proposal** within 12–24 months of the award start

Timeline

- **Proposal Due Date:** July 1, 2026
- **Award Notifications:** July 21, 2026
- **Project Start:** August 1, 2026

Submission Instructions

Submit a single PDF containing all materials to tmarshall@jhu.edu.
Questions may be directed to Tim Rupert at tim.rupert@jhu.edu.