

UNM Limited Competition Announcement

Dear UNM Researchers,

The Office of the Vice President for Research is requesting statements of interest and pre-proposals for the **NSF Ecosystem for Low-dimensional Electronics: Growth, Assembly, Nanoelectronics, and Translation (ELEGANT)** limited competition. The mission of this program is to translate Low-D semiconductor technologies from laboratory demonstrations into industrially viable platforms that U.S. microelectronics manufacturers can qualify, fabricate, and deploy. ELEGANT is a **translational program, not a research program**. The program is structured around five Translation Themes, each defined by a specific industry-adoptable **Translational Endpoint** — a deliverable that industry can evaluate, adopt, and invest in. Technical disciplines (e.g., materials synthesis, metrology, process development, devices and circuits) are inputs that serve the Themes, not standalone program elements. This design has three important consequences:

- Accountability is outcome-based.
- Integration is structural.
- Go/No-Go gates have industry-adoption criteria.

Sponsor: NSF

Opportunity Title: Ecosystem for Low-dimensional Electronics: Growth, Assembly, Nanoelectronics, and Translation (ELEGANT)

Opportunity Number: NSF-OTASO-FY26-ELEGANT

Sponsor Due Date(s): 12/18/2026

Award Range: \$6M–\$43M

Number of Submissions Allowed from UNM: One (1) **Ecosystem Coordinator** OR Five (5) **Expert Performer Teams** (one under each of the 5 themes)

Solicitation: <https://sam.gov/workspace/contract/opp/fc4611184ad340358c2314151865aef8/view>

Additional Information:

- **Ecosystem Coordinator** is expected to employ technical subject matter experts (SMEs) with substantial industry experience in transitioning advanced semiconductor technologies from R&D to manufacturing and commercial production. The Coordinator and SMEs support rather than direct the Expert Performer Team. The Ecosystem Coordinator is responsible for the following:
 - Pollinator SMEs, who share information across Expert Performer Teams and Themes.
 - Shepherd SMEs, who ensure Expert Performer Teams meet their execution schedules.
 - Technology Roadmapping.
 - Standards Development.
 - Intellectual Property (IP) Framework Administration.
 - Industry Roundtable Secretariat.
- **Expert Performer Teams**
 - **Theme 1** - Manufacturable Materials Platform: Demonstration of Low-D semiconductor materials synthesized on 300 mm wafers, meeting industry-defined specifications sufficient for foundry process-qualification entry with industry-suitable equipment for synthesis and metrology (validated by two or more industry partners) on a pathway to production readiness.
 - **Theme 2** - Process Technology & PDK: A documented, reproducible process steps and flow (and associated equipment) and PDK(s) released to at least two independent industry partners and validated as sufficient for circuit-level design and evaluation of Low-D semiconductor devices.

- **Theme 3** - Device, Circuit and Full-Chip Demonstration: Functional full-chip level prototypes demonstrating at least a 10X PPAC improvement relative to a relevant CMOS technology node, validated by at least two independent industry partners. This is ELEGANT's primary point for industrial adoption readiness.
- **Theme 4** - Manufacturing Readiness & Transition: A manufacturing readiness capability — comprising a 300 mm tool qualification roadmap, cost and yield model, foundation for a domestic supply chain, and minimal packaging solution — providing the information industry needs to make a capital investment decision in Low-D semiconductor technology validated by at least two industry partners.
- **Theme 5** - AI-Enabled Acceleration: A shared AI/ML platform demonstrating reduction in time-to-result across at least three of Themes 1-4, with validated closed-loop learning deployed in at least one materials synthesis and process development workflow by end of Phase 2.

Limited Comp. Instructions: 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.

Limited Comp. STEP 1: Required SOI Due Date: **NOON on October 9, 2026** (for planning purposes)

Limited Comp. STEP 2: Pre-proposal Due Date: **NOON on October 20, 2026**

STEP ONE: Please submit your ~100-word **statement of interest** in UNM's [InfoReady Review portal](#). This is a *required step*, and no late submissions will be considered. Note that SOIs will NOT be scored; we require them to assist us in forming a review committee.

STEP TWO: Please submit your 3-page pre-proposal, abbreviated budget, and CVs for key personnel via UNM's [InfoReady Review portal](#). You will receive an email when the InfoReady competition has been converted from the SOI application to the pre-proposal application, but you may work on your documents outside the system before that. No late submissions will be considered.

The pre-proposal should address the major topics that will be included in the proposal narrative:

Ecosystem Coordinator submissions must address the following:

1. **Coordination and Support Plan.** Proposed approach to cross-theme technical integration, program-wide milestone tracking, and program coordination, including: Pollinator and Shepherd recruitment, deployment, and management; roadmap development; IP management; standards engagement; and ELEGANT Industry Secretariat support.
2. **Experience and Qualifications.** Organizational and personnel experience in: semiconductor roadmapping, including industry alignment; large-scale R&D program coordination; advanced microelectronics; IP management, licensing, and technology transfer; standards and roadmap development; and multi-stakeholder technology translation programs.
3. **Industry Relationships.** Existing relationships with the domestic semiconductor ecosystem — manufacturers, equipment suppliers, materials suppliers, EDA vendors, and standards bodies — relevant to ELEGANT's coordination and transition objectives.

Expert Performer Team submissions must address the following:

1. **Translation Strategy and Approach.** Proposed approach to achieving the target Theme's Translational Endpoint, including: technical approach and innovations; anticipated outcomes at the end of each Phase; strategy for achieving Go/No-Go milestone(s); approach to integrating with adjacent Teams and Themes; and, for Themes subject to parallel investment, explanation of why the proposed approach is most likely to survive down-selection.

2. **Experience and Qualifications.** Organizational and personnel experience in the specific technical domain of the target Theme; lab-to-fab translation in semiconductor or advanced materials; industry collaboration; and milestone-driven execution of large R&D programs.
3. **Industry Partnerships.** Description of strategy for developing and sustaining partnerships, the nature of partner involvement, and the plan for deepening engagement. Proposals should describe how the team will attract and formalize partnerships in advance of Go/No-Go phases 1 and 2.
4. **Workforce Development.** Anticipated workforce gaps and capability needs in target Theme's domain, and proposed strategies for addressing them.

The pre-proposals will be reviewed using the following criteria:

Evaluation Criteria – Ecosystem Coordinator:

1. **Coordination and Management Approach (highest weight).** Credibility, specificity, and operational readiness to address cross-theme technical integration and program coordination, including the quality of the proposed Pollinator and Shepherd model.
2. **Translation Strategy and Credibility.** Soundness, specificity, and credibility of the approach to achieve the Translational Endpoint and Go/No-Go milestone(s). Proposals will be evaluated on demonstrated understanding of what industry requires and how the proposed work delivers it.
3. **Experience and Qualifications.** Organizational and personnel experience in large-scale R&D program coordination, advanced microelectronics, IP management, roadmap activities and standards development. The Principal Director and any Co-Principal Directors must demonstrate relevant technical expertise and standing within the semiconductor community.
4. **Industry Roundtable Secretariat Support.** Credibility and operational readiness of the offeror's proposed approach to supporting the ELEGANT Advisory Secretariat Roundtable.
5. Necessity, reasonableness, allowability, and justification of the budget.
6. Overall Score.

Evaluation Criteria – Expert Performer Teams:

1. **Translation Strategy and Credibility (highest weight).** Proposals will be evaluated on the likelihood that the proposed approach will meet Phase 1 Go/No-Go specifications and/or survive down-selection. The focus is on translational credibility.
2. **Experience and Qualifications.** Organizational and personnel experience in the technical domain of the target Theme, lab-to-fab translation, and milestone-driven R&D program management. The Principal Director and any Co-PDs must demonstrate relevant technical expertise and standing within the semiconductor community.
3. **Cross-Theme Integration Approach.** Clarity and credibility of how the team's activities will integrate with adjacent Themes and support the Theme 3 system-level demonstration(s).
4. **Industry Participation.** Quality and credibility of the industry engagement strategy, including: the relevance of identified or prospective industry partners to the Theme's Translational Endpoint; the realism of the plan for deepening industry commitment as program results mature; and the team's own role within the industry including its industry relationships and track record.
5. Necessity, reasonableness, allowability, and justification of the budget.
6. Overall Score.

Applicant selections will be published on the [UNM Limited Competitions website](#). Should you have any questions please feel free to contact us at limited@unm.edu. *If you are affiliated with HSC, please contact HSC Limited Competition at HSC-LimitedComps@salud.unm.edu for more information.*