

**Louisiana Materials Design Alliance
(LAMDA)
Seed Funding
Track 3: LAMDA Core User Facilities Awards**

Request for Proposals

DEADLINE DATES:

Open Deadline until June 30, 2022



LA EPSCoR

**LOUISIANA ESTABLISHED PROGRAM TO STIMULATE COMPETITIVE
RESEARCH (EPSCoR)**

Supported by:

The National Science Foundation and the Louisiana Board of Regents

1201 North Third Street, Suite 6-200

Baton Rouge, Louisiana 70802

(225) 342-4253

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Introduction: The Louisiana Materials Design Alliance (LAMDA), an NSF EPSCoR RII Track-1 project, solicits proposals for LAMDA Seed Funding Track 3: LAMDA Core User Facilities Awards. LAMDA’s research program represents a convergence of machine learning (ML), experimental and computational materials science and engineering (MS&E), and additive manufacturing (AM). The vision of LAMDA is to propel the State to a nationally competitive position in the field of ML-guided materials design for AM.

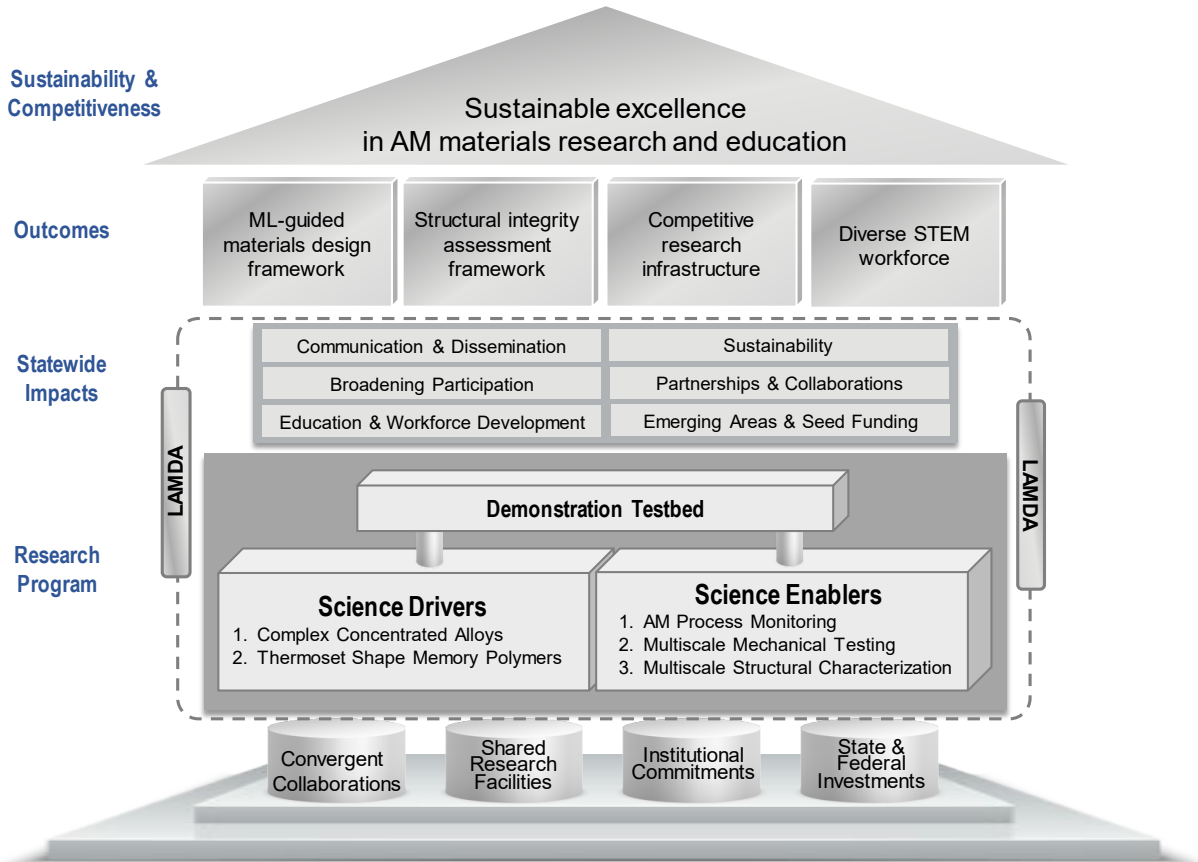


Figure 1. LAMDA strategic research and education roadmap to achieve goals and vision.

The research road map of LAMDA is shown in Figure 1. As illustrated in the roadmap, the LAMDA research program is anchored by two Science Drivers: Complex Concentrated Alloys (CCAs) with balanced mechanical performance (SD-1) and AM-compatible Thermoset Shape Memory Polymers (TSMPs) with enhanced service life (SD-2). Using ML-guided materials design, LAMDA research will predict composition and processing variables for CCAs and TSMPs capable of meeting multi-criteria specifications. The SDs are supported by three Science Enablers (SEs): AM Process Monitoring (SE-1), Multiscale Mechanical Testing and Simulations (SE-2), and Multiscale Structural Characterization (SE-3). Detailed data from AM-process monitoring, structural characterization across length scales, and multiscale mechanical property measurements will provide the foundations for an ML-guided framework for AM materials design and structural integrity assessment, positioning LAMDA for sustainable excellence in AM materials research and education.

Through Federal/State supports, an ecosystem of Core User Facilities (CUF) at LSU, Louisiana Tech, University of Louisiana at Lafayette, and Tulane University has been established, which includes the Advanced Manufacturing and Machining Facility (AMMF), the Materials Manufacturing, Testing, and Evaluation Facility (MMTEF), the Shared Instrumentation Facility (SIF), the Institute for Micromanufacturing (IfM), the Institute for Materials Research and

Innovation (IMRI), and the Coordinated Instrumentation Facilities (CIF). LAMDA-affiliated users are given access at the same rates charged to the on-campus users. Collectively, these are called LAMDA Core User Facilities (LAMDA-CUF), <https://www.lsu.edu/eng/cimm/CUF/index.php>. This RFP is designed to facilitate science and engineering (S&E) research, education and training opportunities for faculty, post-doctoral researchers, and graduate and undergraduate students by providing access for qualified proposals to the LAMDA-CUF.

Eligibility Guidelines

Individuals who hold a regular tenured or tenure-track or research faculty position at any Louisiana public institution of higher education, or at any Louisiana higher education institution that is a member of the Louisiana Association of Independent Colleges and Universities, are eligible to apply. Awards are to be single investigator. While co-PIs are allowable, one and only one individual must be listed on the cover sheet as principal investigator. The PI should not currently be funded by LAMDA. In addition, post-doctoral researchers and graduate and undergraduate students may participate but **must** be sponsored by a tenured or tenure-track faculty member or research faculty, who will serve as the Principal Investigator (PI).

Principal investigators who are delinquent in submitting contractually required reports for prior or existing Board of Regents Support Fund and/or Federal awards managed by the Board of Regents Sponsored Programs Section are precluded from submitting a proposal in response to this RFP until the required report(s) has been received and accepted by the Board.

Award Information

- Must specify which CUF facility/facilities will be utilized (award is restricted to usage of LAMDA-CUF facilities).
- Must specify the number of hours of LAMDA-CUF usage needed to complete the project.
- Must specify instruments to be used.
- Industry collaboration is encouraged.

It is essential that the request be realistic. For this reason, PIs should consult with the directors of the facilities to be used for the proposed work.

The LAMDA-CUF Awards program will be administered through the BoR's Office of Sponsored Programs and will operate under the guidance of the State's EPSCoR Committee. The awards are anticipated to be up to \$2,000. Supplies are not an allowable expense under this program. Multiple proposals from the same PI are allowable. Funds will be made available by contract from the BoR to the Principal Investigator's (PI) institution. Institutions are strongly encouraged to waive the F&A on these awards to maximize the impact of the grants.

Proposal Format

Proposals must use 1-inch margins, 11-point font or larger (Arial or Helvetica) and single line spacing. The following outline is to be followed:

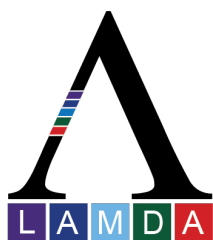
- Title page (Please use the one provided with this RFP)
- NSF demographic survey (please use the form provided with this RFP) Note: this information is voluntary.
- Proposed Research (1-page max)
 - Rationale: discussion of the technical background and engineering/scientific justification. This should include project objectives and justification for how the research will benefit from the usage of the LAMDA-CUF.
 - Test Plan: What exactly will be done? How will the LAMDA-CUF be used? Motivations, methods, likely outcomes?

- References (not included in the page count)
- Sponsored Programs Approval Letter (template provided). Must indicate approval of the submission of the proposal by the submitting institution's sponsored programs authorized representative. If this is not received, the proposal will be returned without review.
- Budget (Please use the form provided). A budget justification/explanation must also be included. Budget justification should clearly show instrument charges including the number of hours.
- Biosketch (2-page limit; use NSF format)

Proposal Submission

The proposal must be submitted by the PI to the Board of Regents through the LA EPSCoR online submission system, <https://laepscor.piestar-rfx.com/opportunities>. All proposals must include a certification letter that the proposal has been approved by the submitting institution's authorized representative, see requirement in the Proposal Format section above.

Specific questions concerning this RFP and the requirements set forth herein should be directed to Ms. Jessica Patton, Federal Programs Administrator, by sending an email message to jessica.patton@laregents.edu.



2021-22 LAMDA Seed Grants Proposal

Track 3: LAMDA Core User Facilities Awards

1. Applicant's Name, Position & Contact Information

(Last Name) (First Name) (MI)

() ()

Phone Fax Email

(Institution) (Department/Unit)

(Mailing Address)

(City) (State) (Zip Code)

PI Status: Tenure-track Tenured Research Faculty

PI Rank: Assistant Professor Associate Professor Full Professor

Core User Facility: Please check the CUF facility/facilities to be used

Advanced Manufacturing and Machining Facility (AMMF)

Materials Manufacturing, Testing, and Evaluation Facility (MMTEF)

Shared Instrumentation Facility (SIF)

Institute for Micromanufacturing at LA Tech (IfM)

Coordinated Instrumentation Facilities (CIF)

Institute for Materials Research and Innovation (IMRI)

Anticipated number of hours and instrument(s):

2. Project Title:

3. Acceptance of Program Requirements: By submitting my proposal electronically, I agree that I have read and understand the program requirements detailed in this RFP under Award Conditions. If awarded, I agree to ensure timely compliance to all program requirements.

2021-22 LAMDA Seed Grants

For National Science Foundation Reporting Purposes Only

Gender: Male Female

Ethnicity: (Choose one response) Hispanic or Latino Not Hispanic or Latino

Race: (Select one or more)

Asian American Indian or Alaska Native

Black or African American Native Hawaiian or Other Pacific Islander

White Prefer not to respond

Disability Status:

Hearing Impairment Mobility/Orthopedic Impairment

Visual Impairment Other None

Prefer not to respond

Why this information is being requested:

The National Science Foundation (NSF) is committed to providing equal opportunities for participation in its programs and promoting the full use of the Nation's research resources. To aid in meeting these objectives, NSF requests information on the gender, race, ethnicity and disability status of individuals participating in NSF-sponsored activities. Provision of this information is voluntary.

The above information will be used for NSF reporting purposes only and will not be considered as a precondition of a LAMDA Seed Funding award.

SUMMARY PROPOSAL BUDGET					
ORGANIZATION		PROPOSAL NO.		DURATION (MONTHS)	
				Proposed	Granted
PRINCIPAL INVESTIGATOR/PROJECT DIRECTOR		AWARD NO.			
A. SENIOR PERSONNEL: PI/PD, Co-PIs, Faculty and Other Senior Associates List each separately with name and title. (A.7. Show number in brackets)		NSF-Funded Person-months		Funds Requested By Proposer	Funds Granted by (If Different)
		CA	ACA	SUMR	\$
1.					\$
2.					
3.					
4.					
5.					
6. () OTHERS (LIST INDIVIDUALLY ON BUDGET EXPLANATION PAGE)					
7. () TOTAL SENIOR PERSONNEL (1-6)					
B. OTHER PERSONNEL (SHOW NUMBERS IN BRACKETS)					
1. () POSTDOCTORAL ASSOCIATES					
2. () OTHER PROFESSIONALS (TECHNICIAN, PROGRAMMER, ETC.)					
3. () GRADUATE STUDENTS					
4. () UNDERGRADUATE STUDENTS					
5. () SECRETARIAL - CLERICAL (IF CHARGED DIRECTLY)					
6. () OTHER					
TOTAL SALARIES AND WAGES (A + B)					
C. FRINGE BENEFITS (IF CHARGED AS DIRECT COSTS)					
TOTAL SALARIES, WAGES AND FRINGE BENEFITS (A + B + C)					
D. EQUIPMENT (LIST ITEM AND DOLLAR AMOUNT FOR EACH ITEM EXCEEDING \$5,000.)					
TOTAL EQUIPMENT					
E. TRAVEL 1. DOMESTIC (INCL. CANADA, MEXICO AND U.S. POSSESSIONS)					
2. FOREIGN					
F. PARTICIPANT SUPPORT					
1. STIPENDS \$ _____					
2. TRAVEL _____					
3. _____					
SUBSISTENCE _____					
4. OTHER _____					
TOTAL NUMBER OF PARTICIPANTS ()		TOTAL PARTICIPANT			
COSTS					
G. OTHER DIRECT COSTS					
1. MATERIALS AND SUPPLIES					
2. PUBLICATION/DOCUMENTATION/DISSEMINATION					
3. CONSULTANT SERVICES					
4. COMPUTER SERVICES					
5. SUBAWARDS					
6. OTHER					
TOTAL OTHER DIRECT COSTS					
H. TOTAL DIRECT COSTS (A THROUGH G)					
I. INDIRECT COSTS (F&A) (SPECIFY RATE AND BASE)					
TOTAL INDIRECT COSTS (F&A)					
J. TOTAL DIRECT AND INDIRECT COSTS (H + I)					
K. RESIDUAL FUNDS (IF FOR FURTHER SUPPORT OF CURRENT PROJECT SEE GPG II.D.7.j.)					
L. AMOUNT OF THIS REQUEST (J) OR (J MINUS K)				\$	\$
M. COST SHARING: PROPOSED LEVEL \$		AGREED LEVEL IF DIFFERENT: \$			

INSTITUTION
Authorized Sponsored Programs
Representative Office

<Date>

Ms. Jessica Patton
Federal Program Administrator
Board of Regents, State of
Louisiana
1201 North 3rd Street, Suite 6-200
Baton Rouge, LA 70802

Dear Ms. Patton:

<Institution> agrees to participate as a subrecipient in the proposed project entitled “<Title>.” The <institution> portion of the work as described in the attached proposal will be under the primary direction of <principal investigator>.

The amount requested for <institution>’s participation in this research project is **<total budget amount>**. <Institution> has reviewed and approved the budget and budget justification for this proposal.

We look forward to a rewarding and productive research effort.

Sincerely,
<Authorized Organization Representative>
<Office of Authorized Organization Representative>

Enclosures: <Any necessary attachments>