

**Louisiana Materials Design Alliance
(LAMDA)
Seed Funding
Track 2: Industrial Collaborations**

FY 21-22 Request for Proposals

DEADLINE DATES:

RFP ISSUE DATE: **(October 22, 2021)**

Last day for questions and answers about this RFP: **(November 12, 2021)**

Proposals due: **(November 30, 2021, 4:30 PM Central Time)**



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

www.laregents.org

Introduction: The Louisiana Materials Design Alliance (LAMDA), an NSF EPSCoR RII Track-1 project, solicits proposals for LAMDA Seed Funding Track 2: Industrial Collaborations. 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.

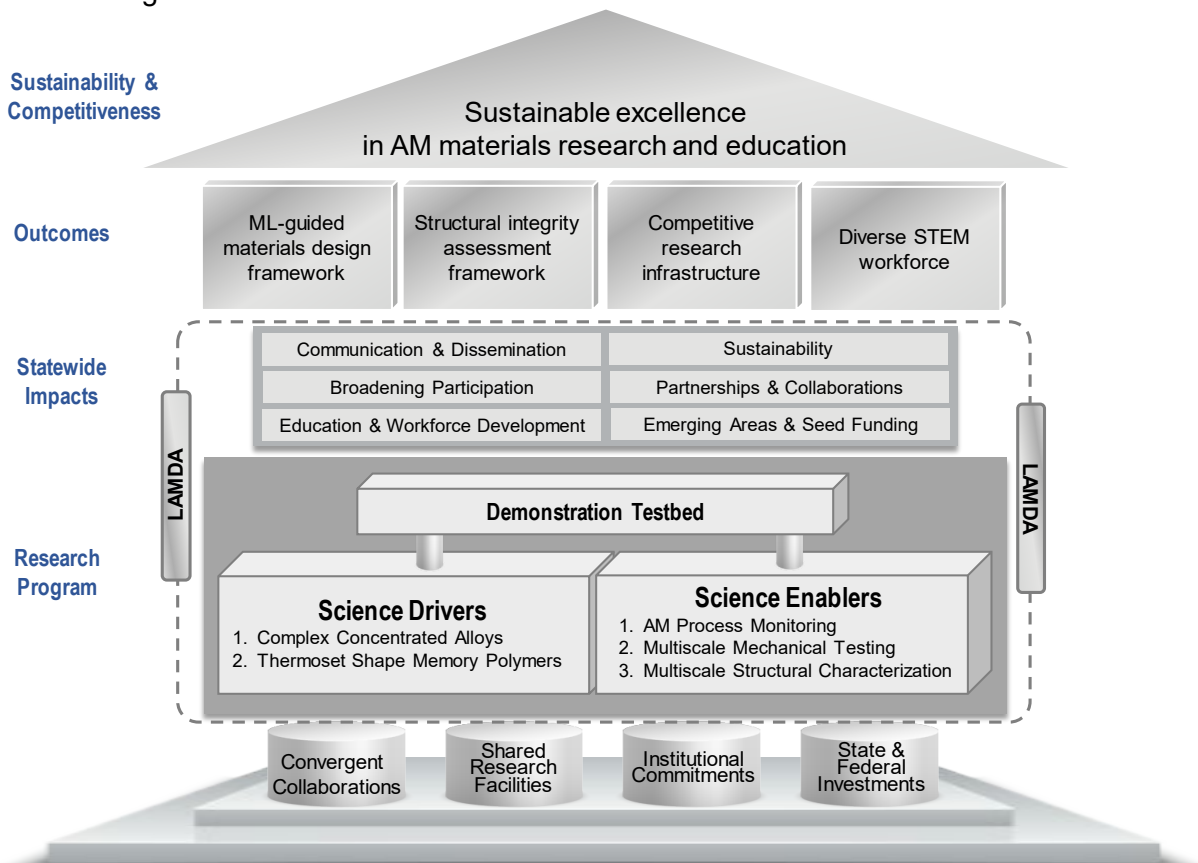


Figure 1. LAMDA strategic research and education roadmap to achieve goals and vision.

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.

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. PIs who are currently funded by LAMDA are also eligible to apply. Seed 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.

Award Information

1. Should be primarily industry driven
2. Must have partnership with industry
3. Must have a designated industry mentor/partner
4. Letter of support from industry is required. The letter should identify the industry and individual mentor/partner, clearly describe the role of the industrial partner, and provide information on any pertinent commitments, either cash or in-kind contribution (personnel time, use of existing equipment or facilities, etc.)
5. Participation from women and under-represented minorities (URM), including graduate students, is encouraged.
6. Preference will be given to industries with a presence inside Louisiana

The Seed Funding Track 2: Industrial Collaborations program will be administered through the BoR's Office of Research and Sponsored Initiatives and will operate under the guidance of the State's EPSCoR Committee. The awards are anticipated to be \$10,000. Charges for student tuition and senior personnel salaries (faculty, postdoctoral researchers, or research associates) are not allowable expenses. Award dollars may be used, for example, to support students, travel, and the purchase of scientific equipment and supplies. Any scientific equipment requested must have a strong justification included in the project description. Cost sharing is not required, but industry contributions (see item 4 in the Award Information section on the previous page) may be a consideration in proposal evaluation. 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 seed grants.

Award Conditions

Successful applicant is expected to participate fully in the activities of LAMDA including providing materials needed for reports, participating and presenting in LAMDA meetings (two meetings per year in Baton Rouge; anticipated to be in April and July), responding to data collection requests by the LAMDA External Evaluator, and recommendations made by the LAMDA External Review Board. All publications and presentations resulting from the seed grant should use the following acknowledgment statement, "This work is supported by the US National Science Foundation under grant number OIA-1946231 and the Louisiana Board of Regents for the Louisiana Materials Design Alliance (LAMDA)."

Schedule

Request for Proposals Released	October 22, 2021
Last Day for Q&A	November 12, 2021
Proposals Due	November 30, 2021
Award Notification	December 20, 2021
Project Dates	January 1, 2022 – Dec 31, 2022

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 (2 pages max)

- Rationale: discussion of the technical background and engineering/scientific justification. This should include project objectives and how it will advance the goals of LAMDA and industry.
- Research Plan: What exactly will be done? How will the objectives be met? What are the motivations, methods, likely outcomes, milestones, and future directions?
- Synergism, Diversity, and Sustainability (1-page max):
 - Synergism: How will the Seed project take advantage of the capabilities of others in the LAMDA and industry? What specific collaboration with industry will be used to meet the project goals?
 - Describe the involvement women and/or URM in the project.
 - Will the project result in a long-term partnership with industry that will sustain the project after the funding period has expired?
- 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 one-page budget justification/explanation must also be included. Describe any industry commitment of cash or in-kind resources in the budget narrative under the appropriate category. The Budget page must be approved and signed by the submitting institution's authorized representative.
- Biosketch (2-page limit; use NSF format)
- Letter of support from industry

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>, no later than the close of business day (4:30 p.m.) on Tuesday, November 30, 2021. 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.

Evaluation Criteria

- Potential for short- and long-term impact on ML-guided materials design for AM.
- Potential to seed unique directions within LAMDA to advance the two SDs.
- Collaboration with industry, including (optional) commitment of industry resources.
- Potential for long-term partnership with industry
- Collaborations with LAMDA senior investigators.
- Involvement of women and under-represented minorities in research.

Specific questions concerning this RFP and the requirements set forth herein should be directed in writing to Ms. Jessica Patton, Federal Programs Administrator, by sending an email message to jessica.patton@laregents.edu. Questions will be accepted and answered through November 12, 2021. A running compilation of all questions asked about this RFP and all answers provided in response to those questions will be periodically posted on the BoR website at <http://web.laregents.org>.



2021-22 LAMDA Seed Grants Proposal Track 2: Industrial Collaborations

1. Applicant's Name, Position & Contact Information

<hr/>		
<i>(Last Name)</i>	<i>(First Name)</i>	<i>(MI)</i>
<hr/>	<hr/>	<hr/>
<i>()</i>	<i>()</i>	
<i>Phone</i>	<i>Fax</i>	<i>Email</i>
<hr/>		
<i>(Institution)</i>	<i>(Department/Unit)</i>	
<hr/>		
<i>(Mailing Address)</i>		
<hr/>		
<i>(City)</i>	<i>(State)</i>	<i>(Zip Code)</i>

PI Status: Tenure-track Tenured Non-tenured Research Faculty

Other (please specify): [Click here to enter text.](#)

PI Rank: Assistant Professor Associate Professor Full Professor

Industry Partner:

Name and position of Industry Mentor:

2. Project Title:

3. Project Summary (250 words max):

[Project Summary Word Count: _____ words]

4. 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
(Complete one form for each project participant)

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			Funds Requested By Proposer	Funds Granted by (If Different)
			Person-months				
			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>