

**Louisiana Materials Design Alliance
(LAMDA)
Seed Funding
Track 4: STEM Outreach**

FY 21-22 Request for Proposals

DEADLINE DATES:

RFP ISSUE DATE: **December 11, 2021**

Last day for questions and answers about this RFP: **January 7, 2022**

Proposals due: **January 31, 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

www.laregents.org

Introduction: The Louisiana Materials Design Alliance (LAMDA), an NSF EPSCoR RII Track-1 project, solicits proposals for LAMDA Seed Funding Track 4: STEM Outreach. 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.

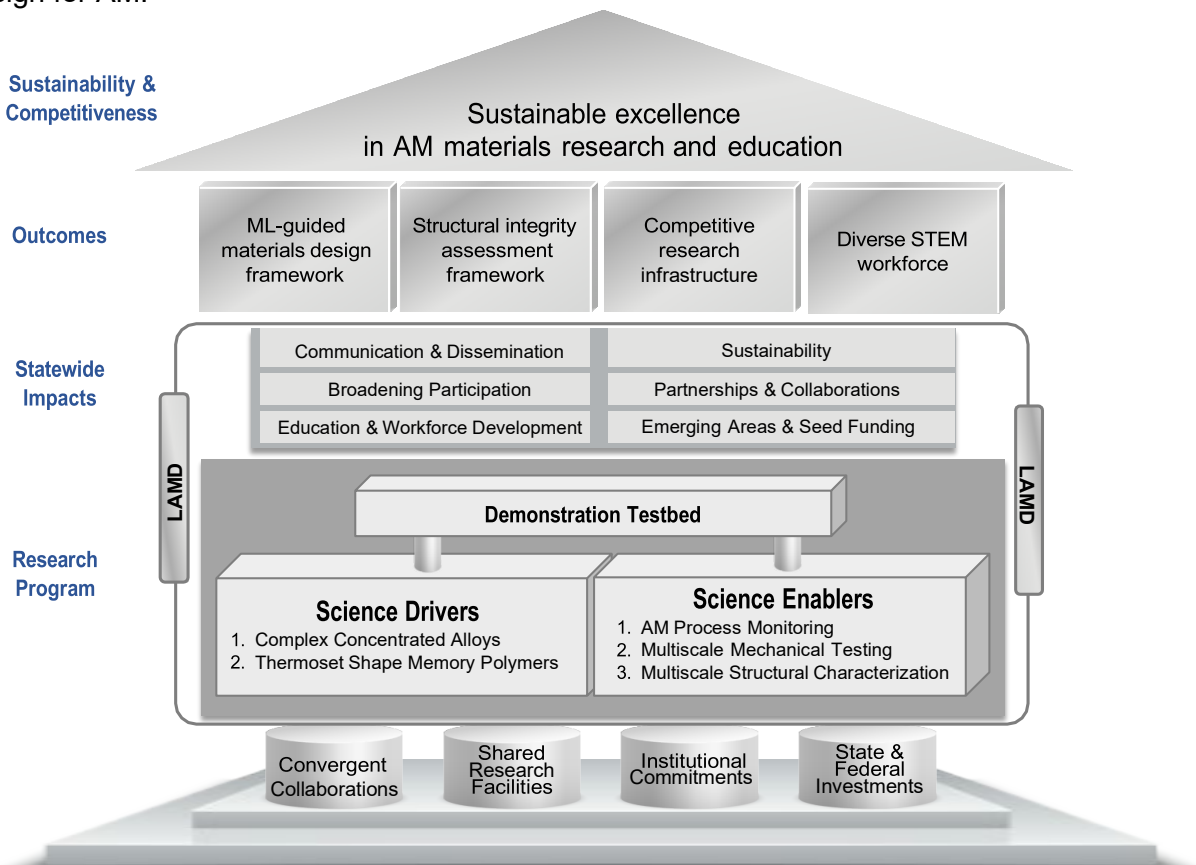


Figure 1. LAMDA strategic research and education roadmap to achieve goals and vision.

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, an outreach/education position, or an instructor level 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 K-12 driven
2. Must have partnership with a K-12 institution.
3. Must have a designated K-12 mentor/partner
4. Letter of support from K-12 school principal(s) is required. The letter should identify the school or institution and an individual mentor/partner, clearly describe the role of the K-12 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 partnerships arranged with, through, or by the LaSTEM Regional Directors, visit <https://lastem.regents.la.gov/> for more information on the LaSTEM state-wide initiative. A list of LaSTEM regional directors is attached.

The Seed Funding Track 4: STEM Outreach 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.

Award Calculations and Allowability

1. The awards are anticipated to be up to \$6000.00.
2. Charges for student tuition and senior personnel salaries (Institution of Higher Education faculty and postdoctoral researchers) are not allowable expenses.
3. One K-12 teacher per school will be eligible for a \$500 honorarium to serve as mentor/partner.
4. Award dollars may be used, for example, to support students (including K-12 students), travel, and the purchase of scientific equipment and supplies. Any scientific equipment requested must have a strong justification included in the project description.
5. 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.
6. 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.

Proposal Objectives

Project proposals must include measurable objective(s) aligned to at least one of the following:

1. the Louisiana Student Standards for Science, <https://www.louisianabelieves.com/resources/library/k-12-science-resources>
2. the LaSTEM statewide goals and objectives <https://lastem.regents.la.gov/wp-content/uploads/2021/02/Final-LaSTEM-Report.pdf>
3. the Louisiana Materials Design Alliance research science drivers and enablers <https://web.laregents.org/la-epscor-2/lamda/research/>

Projects must include informational/instructional experiences designed to build or reinforce student knowledge regarding college admissions requirements & processes for STEM fields, financial aid processes & opportunities within STEM fields, and university-provided student support services.

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	December 11, 2021
Last Day for Q&A	January 7, 2022
Proposals Due	January 31, 2022
Award Notification	February 7, 2022
Period of performance	August 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 STEM education outreach in Louisiana.
 - Outreach 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 STEM education outreach? What specific collaboration with K-12 education institution(s) 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 and/or K-12 education institutions (s) 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.
- Biosketch (2-page limit; use NSF format)
- Letter of support from K-12 principal.

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 January 31, 2022. 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

- Addresses one or more of the Louisiana Student Science Standard(s) (25 points)
- Addresses one or more LaSTEM goal(s) (25 points)
- Potential to seed unique directions within LAMDA to develop long term outreach collaborations (25 points)
- Potential to contribute to one or more LAMDA Science Drivers and/or Enablers (15 points)
- Involvement of women and under-represented minorities in research. (10 points)

Specific questions concerning this RFP and the requirements set forth herein should be directed in writing to Mr. Shannon J. Domingue, LA EPSCoR Program Associate, by sending an email message to Shannon.domingue@laregents.edu Questions will be accepted and answered through January 7, 2022. 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 4: STEM Outreach

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

K-12 Partner: _____ **Name and position of K-12 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 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				
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>

Mr. Shannon J. Domingue
EPSCoR Program Associate
Board of Regents
State of Louisiana 1201 North 3rd
Street, Suite 6-200 Baton Rouge, LA
70802

Dear Mr. Domingue:

<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>

Louisiana STEM Center Directors/Coordinators

Region	Awarding Institution	Center Name	Contact Name	Position	Email
1	GNO, Inc.	Greater New Orleans Development Foundation/GNO, Inc.	Daphine Barnes	Center Director	dbarnes@gnoinc.org
			Brandon Williams	Director of Finance	dwilliams@gnoinc.org
2	LSU	Capital Area STEM	Kim Fossey	Interim Director	kimfossey@lsu.edu
3	Fletcher Technical CC	Bayou STEM	Christie Landry	Interim Director	Christie.landry@nicholls.edu
4	ULL	UL Lafayette STEM Center	Peter Sheppard	Interim Director	peter.sheppard@louisiana.edu
5	Calcasieu Parish School Board	Calcasieu Parish School Board (in partnership with McNeese University)	Mark Arseneault	Center Director	mark.arseneault@cpsb.org
6	Northwestern State	Northwestern State University STEM Center	Jennifer DePriest	Center Director	depriestj@nsula.edu
7	Sci-Port	NWLA LaSTEM Innovation Center	Beonica Frazier	Center Director	Bfrazier@sciport.org
8	Louisiana Tech	Louisiana Tech University STEM Center	Cathi Cox-Boniol	Interim Director	ccb91110@gmail.com
9	Southeastern University	Southeastern Louisiana University STEM Center	Wendy Conarro	Center Director	wendy.conarro@selu.edu
9	Southeastern University	Southeastern Louisiana University STEM Center	Jessica Meyer	AmeriCorps VISTA	jessica.meyer@selu.edu