

**Consortium for Innovation in  
Manufacturing and Materials (CIMM)  
Seed Funding  
Track 3: Internship Opportunities**

*FY 18-19 Request for Proposals*

DEADLINE DATES:

RFP ISSUE DATE: **(March 22, 2019)**

Last day for questions and answers about this RFP: **(April 8, 2019)**

Proposals due: **(April 22, 2019, 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**

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**Introduction:** The Consortium for Innovation in Manufacturing and Materials (CIMM), an NSF EPSCoR RII Track-1 project, solicits proposals for CIMM Seed Funding Track 3: Internship Opportunities to support student research projects in partnership with industry. Internships can be at any industry or research lab involving activities related to manufacturing. However, priority is given to internship that are aligned with CIMM Science and Technology. Although alignment with CIMM Science and Technology Thrusts (see below) are highly encouraged, that is not a requirement.

The current Science and Technology Thrusts (STTs) of CIMM address underlying technologies in two areas: 1) STT1 (Multiscale metal forming and replication) addresses challenges in high-throughput manufacturing of components with functional features ranging from microns to millimeters and beyond with high fidelity and repeatability; 2) STT2 (Laser-based 3D metal printing) focuses on adaptive manufacturing of application-specific structures with a high degree of geometric and microstructural complexity and variability. The unifying scientific challenge for these STTs is the multiscale nature of the underlying phenomena, which span multiple length scales (nanometers to millimeters and beyond) and time scales (nanoseconds to hours). A major challenge in multiscale forming is that well-established macroscale manufacturing methods cannot be simply scaled down to the relevant dimensions. To address this, STT1 tightly couples experimentation with modelling and simulation on multiscale plasticity and physics and mechanics of interfacial regions, with focus on mechanical size effects and engineered interfaces. A major challenge in laser-based 3D metal printing is that an understanding of the complex interplay between multi-physics and multiscale phenomena—which are required for tailoring composition and microstructure of printed parts—is presently incomplete. To address this, STT2 couples experimentation with hierarchical modeling and simulation tools, with a focus on laser printing processes and custom powder synthesis. *Experimentally validated models and simulation tools, developed through this effort, will lead to advancement of scientific understanding and acceleration of further technology development.* CIMM's research program also includes the development of data handling and workflow management capabilities to support material and process development within the Integrated Computational Materials Engineering (ICME) framework. CIMM has established an ecosystem of User Facilities at LSU and Louisiana Tech to support advanced manufacturing research and development, and is expanding this network of user facilities where CIMM-affiliated users are given access at the same rates charged to the on-campus users. Collectively, these are called CIMM Core User Facilities (CIMM-CUF). Additional information about CIMM can be found at <http://www.lsu.edu/eng/cimm/index.php>.

### **Eligibility Guidelines**

Students 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 participate. Students may travel independently but **must** be sponsored by a tenured or tenure-track faculty member, who will serve as the Principal Investigator (PI). Senior investigators who are currently funded by CIMM are eligible to apply. Recipients of Track 1: Faculty Research Awards and Track 2: Industrial Collaboration awards are also eligible to apply. Seed award proposals are to be single-investigator, and must be submitted by a university personnel holding a faculty appointment (tenured, tenure-track, research professors, or professors of practice). While co-PIs are allowable, one and only one individual must be listed on the cover sheet as principal investigator. The student intern should be identified in the proposal, and the industry partner (host) for the intern should also be identified.

### **Award Information**

- Duration of the visits must range from a minimum of two (2) weeks to a maximum of ten (10) weeks

- Will provide up to \$1,000.00 per week for subsistence (based on established per-diem and hotel rates for the location) and up to \$800 to cover travel (air fare, rental car, etc.), not to exceed a total of \$10,000. Travel is only allowable for students who live more than 50 miles from the host laboratory.
- Letter of support from industry is required. The letter should identify the industry and individual mentor/partner, willingness to host the intern, and describe any other pertinent commitments.
- The applicant is expected to spend the entire duration of the visit at the facility.
- Restricted to domestic industries, international travel is not allowed.
- Participation from women and under-represented minorities (URM) is encouraged.

The Seed Funding Track 3: Internship Opportunities 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 \$10,000. Payment of stipends is not permitted. Only expenses that qualify for travel reimbursement under the current state general travel regulations (Policy and Procedures Memorandum #49) 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 so as to maximize the impact of the seed grants.

### **Award Conditions**

Successful applicant is expected to participate fully in the activities of CIMM including providing materials needed for reports, contributing data to the CIMM ICME hub, participation in CIMM meetings (two meetings per year in Baton Rouge; anticipated to be in April and July), responding to data collection requests by the CIMM External Evaluator, and reviews by the CIMM External Review Board. All publications and presentations resulting from the seed grant should acknowledge support from NSF EPSCoR RII Track-1 Co-operative Agreement OIA-1541079 and Louisiana Board of Regents.

To document successes and justify continuing support for the program, participants are required to complete a questionnaire approximately one year after the completion of their internship to determine if the investment generated positive results. The questionnaire will address whether the program yielded any of the following: 1) grant proposals/awards; 2) research publications, 3) presentations at regional, national, or international conferences, 4) research accomplishments, and 5) other research nuggets. Submission of an application and acceptance of an award commits the individual awardee and awardee's institution to fully comply with this requirement. Once this information is provided, the awardee's responsibilities are fulfilled. Failure of an awardee to comply with these requirements will result in declination of future LA EPSCoR awards to that individual until such time the delinquent report is received.

### **Schedule**

Request for Proposals Released	March 22, 2018
Last Day for Q&A	April 8, 2019
Proposals Due	April 22, 2019
Award Notification	May 6, 2019
Project Dates	May 15, 2019 – May 14, 2020

### **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: Describe the partnering facility and its capabilities as related to the proposed activities. Identify a researcher(s) at the partnering facility with whom the applicant plans to collaborate and provide the rationale for selecting the collaborator(s).
  - Research Plan: Provide a statement of work listing the major research tasks to be carried out, a timeline for accomplishing the tasks, and expected outcomes.
- Synergism and Sustainability (1 page max):
  - Synergism: How will the Seed project contribute to innovations in manufacturing, by taking advantage of the capabilities of the CIMM program and the proposed industry partner? What specific collaboration with industry will be used to meet the project goals?
  - Sustainability: Describe the potential of the project in attracting federal funds
- References (not included in the page count)
- Budget (Please use the form provided). A one-page budget justification/explanation must also be included.
- Biosketch (2 page limit; use NSF format)
- Letter of support from industry

### **Proposal Submission**

The proposal must be submitted to the Board of Regents by the submitting institution's authorized representative no later than the close of business (4:30 p.m.) Monday, March 8, 2019. All online submissions must be uploaded as a **single PDF document** through the LOGAN system. Proposal submission is a two-step process. Following PI submission, the proposal is routed to your employing institution for review, approval, and final submission to the Board of Regents' EPSCoR office; the Board does not receive and will not accept the proposal directly from the PI. Deadlines listed in the RFP are absolute; all approved proposals must be submitted by the campus and received by the Board on or before the published proposal deadline. The proposal submission system will automatically close at 4:30 p.m. Central on the deadline date.

### **Instructions for PIs:**

- Go to URL: <https://web.laregents.org/logan/index.pl>
- Login using your LOGAN credentials.
- If you are new user and do not have a LOGAN login, please click on "New user registration" to register.
- If you have logged into LOGAN before and have forgotten your credentials please click "Forgot your password? Reset your account and receive a new system assigned password" to receive a new system-assigned password.
- After logging in, click on "Go >>" next to "CIMM Seed Funding Track 3".
- Follow on-screen instructions to complete your proposal.
- Send completed proposal to the appropriate campus office by clicking "Send Proposal to OSP/OSR". A proposal reference number will be assigned after the proposal is successfully sent to the PI's Office of Sponsored Programs/Research.
- An email confirmation of submission to the campus will be sent to the PI with the proposal reference number.
- The OSP/OSR will review the proposal, and, if approved, submit the proposal to the Board of Regents.

### **Instructions for the OSP/OSR:**

- Go to URL: <https://web.laregents.org/logan/index.pl>

- Login using your Institutional credentials.
- Select “CIMM Seed Funding Track 3”.
- Follow on-screen instructions to submit the proposal to the Board of Regents’ EPSCoR office.
- An email will be sent to both the PI and OSP/OSR to confirm successful submission of the proposal to the EPSCoR office.

If both the PI and the OSP/OSR do not receive confirmation emails within 4 hours, the proposal was not received. Please contact the LA EPSCoR office by phone at 225-342-4253 or by email at [support@laregents.org](mailto:support@laregents.org).

### **Evaluation Criteria**

- Potential for short- and long-term impact on advanced manufacturing.
- Potential to seed unique directions within CIMM to advance the two STTs.
- Potential for long-term partnership with industry
- Potential for advancement of student’s career
- 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@la.gov](mailto:jessica.patton@la.gov). Questions will be accepted and answered through February 1, 2019. 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>.



## 2019 CIMM Seed Grants Proposal

### Track 3: Internship Opportunities

#### 1. Faculty Mentor's Name, Position & Contact Information

_____		
<i>(Last Name)</i>	<i>(First Name)</i>	<i>(MI)</i>
( )	( )	
<i>Phone</i>	<i>Fax</i>	<i>Email</i>
_____		
<i>(Institution)</i>	<i>(Department/Unit)</i>	
_____		
<i>(Mailing Address)</i>		
_____		
<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  Other

**Industry:**

**Industry Mentor and position:**

#### 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.

**5. Student intern's information:**

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<i>(Last Name)</i>	<i>(First Name)</i>	<i>(MI)</i>
<i>( )</i>	<i>( )</i>	
<i>Phone</i>	<i>Fax</i>	<i>Email</i>
<i>(Institution)</i>	<i>(Department/Unit)</i>	

**Intern's academic standing:**

- Undergraduate; Major: [Click here to enter text.](#)
  - Master's; Degree program: [Click here to enter text.](#)
  - Doctoral; Degree program: [Click here to enter text.](#)
- Anticipated graduation date: [Click here to enter text.](#)

## 2019 CIMM Seed Grants

(Complete one form for each project participant)

Note: This information is requested from the PI and the student intern

### 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 CIMM 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: \$				