



LOUISIANA NASA EPSCoR



Research Awards Program (RAP)

A NASA EPSCoR Research Infrastructure Development (RID) Project

Sponsored by NASA & the Louisiana Board of Regents (BoR)
With Technical & Management Support from the
Louisiana NASA EPSCoR Team at LSU

La NASA EPSCoR Management Office
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Louisiana State University, Baton Rouge, LA 70803
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Revised, October 2018

All previous versions of this program's guidelines are null and void.

RAP Program Summary Page

About the RAP

The RAP sub-program is designed for those researchers who have made a NASA contact and are ready to take the next step of initiating a small project. This could involve almost any type of NASA relevant work, such as utilizing a specific NASA facility, employing NASA expertise, or building upon previous NASA work (akin to technology/knowledge transfer) or working with a NASA group on problems of common interest. In all cases, the Louisiana researcher must have the support of a NASA researcher and include a plan for developing a research partnership. The goal here is to develop larger, longer-lasting collaborative projects that can transition to the next level. There are two components to the proposed RAP subprogram.

Single Institution Projects (SIP) are designed to provide seed grants for R & D that have a demonstrated tie-in to a NASA priority. Projects are open to any area relevant to NASA's mission. Each project proposal must include a NASA Collaboration Development Plan that describes what effort has already been, and will be, undertaken to establish a partnership with one or more NASA researchers.

Partnership Projects (PP) involve two or more institutions, one of which should be a non-research intensive institution and preferably an HBCU. In addition to the SIP requirements, a Partnership Project must demonstrate significant contributions from each institution, an equitable distribution of resources, and a management plan that details how the institutions will work together on the project.

RAP awards will be issued for a 12 month period of performance. RAP-SIP awards are anticipated to be in the \$30K-\$40K range; RAP-PP awards are anticipated to range from \$60K-\$75K. Proposing institutions are expected to provide a 50% cost-match. The project PI must be a faculty member at one of Louisiana's institutions of higher education.

Proposal Submissions

- **Submit all properly executed proposals via email as fully searchable pdf documents to laspace@lsu.edu by 11:59 pm on Friday, November 30, 2018.**
- Important Dates:
 - Proposal Release Date: Monday, October 8, 2018
 - Proposal Due Date: Friday, November 30, 2018
 - Anticipated Award Announcements: January 2019
 - Anticipated Period of Performance: February 1, 2019 – January 31, 2020

RAP Program Guidelines

Introduction to the NASA EPSCoR RID Program

The NASA Established Program to Stimulate Competitive Research (EPSCoR) is administered through NASA's Office of Education. The purpose of NASA EPSCoR is to strengthen the research capability of jurisdictions that have not in the past participated equably in competitive federal research and development activities.

The NASA EPSCoR Research Infrastructure Development (RID) program for 2015-2018 focuses on building the core strength needed to develop competitive research and technology development methods and activities for the solution of scientific and technical problems of importance to NASA as defined by one or more of the four Mission Directorates and/or one or more of the ten NASA Centers (including JPL). RID programs will also contribute to the overall research infrastructure, science and technology capabilities, higher education, and/or economic development of the EPSCoR jurisdiction. An emphasis should be placed on developing a core expertise and robust research program capable of successfully competing for funds offered by NASA, industry, other federal agencies, and additional external sources beyond the EPSCoR program.

NASA Vision, Mission, & Strategic Plan

Vision: We reach for new heights and reveal the unknown for the benefit of humankind.

Mission: Drive advances in science, technology, aeronautics, and space exploration to enhance knowledge, education, innovation, economic vitality, and stewardship of Earth.

2014 Strategic Plan available: http://www.nasa.gov/sites/default/files/files/2014_NASA_Strategic_Plan.pdf

NASA Office of Education

NASA's Office of Education leverages its new organizational structure, which includes four key lines of business, and the NASA Office of Education Infrastructure Division (OEID) to enhance our effectiveness and efficiency as we progress in our strategic objective. The four key lines of business are centered on national STEM areas of need—educator professional development, institutional engagement, STEM engagement for all learners, and NASA internship, fellowship, and scholarship opportunities—and they will enable us to ensure our education investments are unique and non-duplicative. The OEID provides support that improves education policy and decision making, provides better education services, and ensures more effective administration.

The Aerospace Research and Career Development program's two major components, Space Grant and EPSCoR, strengthens the research capabilities of the Nation's colleges and universities and provides opportunities that attract and prepare increasing numbers of students for NASA related careers. The Space Grant student programs serve as a major link in the pipeline for addressing NASA's human capital strategies. The EPSCoR research conducted contributes to the research needs of NASA's Mission Directorates and advances the scientific and technology innovation agenda of the nation, as well as the jurisdiction's aerospace research and development priorities.

NASA Mission Directorates

Programs supported by La NASA EPSCoR must support the NASA organization, align with the NASA Strategic Plan, and support the goals of one or more directorates, NASA centers, and the Office of Education.

The Aeronautics Research Mission Directorate (ARMD), POC: Tony Springer, Director of the Integration and Management Office Phone: (202) 358-0848 Tony.Springer@nasa.gov, http://www.aeronautics.nasa.gov/about_us.htm

Human Exploration and Operations Mission Directorate (HEOMD), POC: Bradley Carpenter Phone: (202) 358-0826 <http://www.nasa.gov/directorates/heo/home/about.html#.VXtCQUZURmM>, BCarpenter@nasa.gov,

Science Mission Directorate (SMD), POC: Kristen Erickson, Director, Science Engagement Partnerships Phone: (202) 358-0039 Kristen.Erickson@nasa.gov, <http://science.nasa.gov/about-us/>

Space Technology Mission Directorate (STMD), POC: Joseph Grant Education Lead Phone: (202) 358-0070, Joseph.Grant-1@nasa.gov, http://www.nasa.gov/directorates/spacetech/about_us/index.html

NASA EPSCoR Center Liaisons

Ames Research Center, <i>Danielle Carmichael</i> Space Grant & EPSCoR Program Coordinator, Office of Education and Public Outreach Phone: 650-604-6958 Danielle.n.Carmichael@nasa.gov	Kennedy Space Center, <i>Michael Lester</i> NASA Internships, Fellowships and Scholarships (NIFS) Lead Phone: (321) 867-3671 gregory.m.lester@nasa.gov
Armstrong Flight Research Center, <i>Dave Berger</i> MIRO Project Manager Phone: (661) 276-6110 Dave.e.Berger@nasa.gov	Langley Research Center, <i>Gamaliel (Dan) Cherry</i> University Affairs Officer Phone: (757) 864-6113 Gamaliel.R.Cherry@nasa.gov
Goddard Space Flight Center <i>Mablelene Burrell</i> , Education Specialist Phone: (301) 286-1122 Mablelene.S.Burrell@nasa.gov	Glenn Research Center, <i>Mark David Kankam, Ph.D.</i> University Affairs Officer Dir. of NASA Space & Aeronautics Academy at Glenn, Phone: (216) 433-6143 Mark.D.Kankam@nasa.gov
Jet Propulsion Laboratory, <i>Linda Rodgers</i> University Programs Administrator Phone: (818) 354-3274 Linda.L.Rodgers@jpl.nasa.gov	Marshall Space Flight Center, <i>Frank Six</i> University Affairs Officer Office of Academic Affairs (HS30) Phone: (256) 961-0678 Norman.F.Six@nasa.gov
Johnson Space Center, <i>Kamlesh Lulla</i> Director, University Research Collaborations and Partnership Office Phone: (281) 483-3065 Kamlesh.P.Lulla@nasa.gov	Stennis Space Center, <i>Kelly Martin-Rivers</i> University Affairs Officer Phone: (228) 688-3802 kelly.e.martin-rivers@nasa.gov

NASA EPSCoR RID Program in Louisiana

The Louisiana Board of Regents (BOR) has received an EPSCoR Research Infrastructure Development (RID) award, “Developing Aerospace Research in Louisiana,” from the NASA EPSCoR program. The overarching theme for NASA EPSCoR in Louisiana is *Moving the State forward in Competitiveness*. This involves a combination of education, research, and infrastructure to both develop the workforce for the future and to foster the technological advances that contribute to long-term economic development. Achieving this goal involves expanding university educational opportunities, enhancing research infrastructure, fostering R & D capacity building, and capitalizing upon the resultant intellectual property. EPSCoR contributes to this hierarchy through exposure and involvement of university students in the research enterprise, improvement of faculty research capabilities (both at a given institution and between institutions), enhancement of research facilities, and provision of opportunities for faculty (particularly junior faculty), post-doctoral researchers and students to engage in meaningful Aerospace related R & D and, eventually, to move beyond the EPSCoR program.

The overall goal for NASA EPSCoR is to *Elevate the Competitiveness of the State's researchers in Aerospace fields*. Flowing from this goal are the following Objectives for our program:

- Develop new capabilities in Aerospace R & D through advancement of junior faculty.
- Refocus research capacity onto areas relevant to the 2014 NASA Strategic Plan and corresponding roadmaps.
- Re-invigorate Aerospace R & D in the State, continuing the recovery from the many recent disasters.
- Instill competitive techniques into the research enterprise.
- Foster linkages with NASA based scientists and engineers.
- Form partnerships with MSIs and involve minority faculty and students in Aerospace R & D.
- Support workforce development through utilization of students and post-doctoral researchers in supported projects.
- Develop linkages with industry, research centers and other federal facilities.

Research Award Program (RAP)

The RAP sub-program is designed for those researchers who have made a NASA contact and are ready to take the next step of initiating a small project. This could involve almost any type of NASA relevant work, such as utilizing a specific NASA facility, employing NASA expertise, or building upon previous NASA work (akin to technology/knowledge transfer) or working with a NASA group on problems of common interest. In all cases, the Louisiana researcher must have the support of a NASA researcher and include a plan for developing a research partnership. The goal here is to develop larger, longer-lasting collaborative projects that can transition to the next level. Proposals for Single Institution Projects (SIPs) and Partnership Projects (PPs) will be considered.

These seed grants from NASA EPSCoR are not just research grants. Excellent research must be performed, but the project should also be designed to (a) increase research capacity and competitiveness and (b) be scalable to a team approach for a larger endeavor. Evidence of the probability of (a) and (b) must be presented in the proposal and addressed in the project report.

Eligibility

The RAP sub-program is designed to provide seed grants to LA researchers for R & D that has a demonstrated tie-in to a NASA center. Projects must involve Research or Technology, and are open to any area relevant to NASA.

The project PI must be a faculty member at one of Louisiana's institutions of higher education. Post-doctoral associates, graduate students, and undergraduates should be involved as needed.

A letter/email of interest from a NASA researcher which shows support for the project, a willingness to host a visit from the PI/team, and recognizes potential for future collaborations must be included. During the period of the award (nominally 12 months), the researcher must make one, or more, trips to the NASA center to interact and/or work with the NASA researcher who has shown interest in the project. *Contact info for Mission Directorate Leads and University Affairs Officers at the various NASA centers are included earlier in these guidelines.*

RAP Project Types

There are two components to the proposed RAP subprogram. Single Institution Projects (SIP) are designed to provide seed grants for R & D that have a demonstrated tie-in to a NASA priority. Projects are open to any area relevant to NASA's mission. Each project proposal must include a NASA Collaboration Development Plan that describes what effort has already been, and will be, undertaken to establish a partnership with one or more NASA researchers, including a letter of interest from a NASA Researcher. Partnership Projects (PP) are much like an SIP except they involve two or more institutions, one of which should be a non-research intensive institution and preferably an HBCU. In addition to the SIP requirements, a Partnership Project must demonstrate significant contributions from each institution, an equitable distribution of resources, and a management plan that details how the institutions will work together on the project.

NASA Collaboration Development Plan

Each project proposal must include a NASA Collaboration Development Plan that describes what effort has already been, and will be, undertaken to establish a partnership with one or more NASA researchers. Proposal evaluation criteria will include whether the PI has already established a NASA link as evidenced by a letter or e-mail from one or more NASA supporters indicating their interest in the project and willingness to host a visit by the PI or the PI team.

Period of Performance

RAP awards will be issued for a 12 month period of performance. No cost extensions (NCEs) for ongoing projects may be considered if submitted to the La Board of Regents Sponsored Programs office no later than 60 days before the initial project end-date. All NCE requests must include a multi-page status report (similar to a final technical report) which addresses all accomplishments made to-date on the project (including all publications, proposals, presentations, patents, etc), where the project is in relation to the originally proposed end date, reasons why the project has been delayed, and a proposed plan for completing the project. This status report must also identify all participants on the project and include demographics for each (students, post-docs, faculty, and staff).

Award Funding Amounts

RAP-SIP awards are anticipated to be in the \$30K-\$40K range; RAP-PP awards are anticipated to range from \$60K-\$75K. We anticipate funding 2 to 5 SIPs and 1 to 2 PPs this cycle.

Proposed Costs

This program is intended to improve research capability in Louisiana and, consequently, costs should primarily support effort within the state. Direct labor costs will be allowed *exclusively* for faculty, staff, students, and visiting researchers at Louisiana Institutions. Project costs should be documented in the proposal as necessary to meet the project goals and objectives. Reasonable costs include salary and wages for faculty, research associates, and student researchers, travel to NASA centers for collaboration development meetings, and basic materials and supplies to conduct the research. This program is not designed to fully support a graduate student, and student tuition is not an acceptable expense. Any rebudgeting in excess of 20% requires advanced approval from the Board of Regents. Rebudget requests must be submitted in writing with a complete explanation as to why the funds could not be spent as proposed, why a rebudget is necessary, and how the newly structured budget will still meet the spirit of the award. Rebudget requests must include the original budget and budget justifications along with the proposed revised budget and budget justification.

Cost-Share

Proposing institutions are expected to provide at least a 50% cost-match. This is taken by the reviewers as evidence of commitment on the part of the proposing institution(s). Such an institutional commitment in the form of re-assigned responsibilities is most significant since it allows the faculty member(s) sufficient time to participate in and manage the proposed research. Lack of such time calls into question the ability of the proposers to actually carry the project to a successful conclusion. All cost sharing must be certified in the project final financial report.

Indirect (F&A) Costs

Indirect (F&A) cost recovery will be allowed at the BOR rate, i.e. 25% of salaries, wages and fringe benefits. Unrecovered indirect is allowable (and recommended) cost sharing.

Award Subcontract

Award funds will be provided by subcontract from the Board of Regents to the lead applicants' college or university, which will assume responsibility for administering the funds according to standard procedures. For PP awards, one institution must be the lead institution to which the award will be given. This lead institution will subcontract with the partner institution.

Diversity

It is a national priority to increase diversity in Science, Technology, Engineering, and Mathematics (STEM), from university students, faculty, and staff to industry employees. Traditionally, minority groups and women have been under-represented in the STEM disciplines as students and faculty as well as in the workplace after graduation. All proposers are encouraged to help recruit diverse participants to their proposed projects.

Animal Use

Any project proposing the use of an animal model for validation must include a local IACUC approval letter, fully signed, which specifies a validity period longer than the proposed project period. Failure to obtain the Institutional Animal Care and Use Committee's approval in advance, is grounds for returning the proposal unreviewed. Attach the IACUC material as an additional appendix.

Human Subjects

Projects that involve human subjects are not acceptable for this program.

Public Nature of Applications

Once an application is received, it becomes public record. Although the staff will not disseminate applications to individuals other than to reviewers, applicants should be aware that, if a request for information is made by the public (e.g., the news media), a copy of the application, by law, must be provided.

Disclosure of Information

All La NASA EPSCoR programs must conform to applicable Federal, State, and NASA Agency regulations and stipulations. This includes annual reporting of award participant information to both the Louisiana Board of Regents and NASA. Part of this information will include both directory information such as name, address, telephone number, date of birth, and demographic information such as gender, ethnicity, and race for all award participants including faculty, staff, and students. Further, outreach includes public dissemination of its supported programs through *The Spaceporter Newsletter*, the La NASA EPSCoR website (<http://laNASAepscor.lsu.edu/>), as well as papers and/or presentations at Space Grant or related Education & Public Outreach conferences. The contents of award reports, including participant names, titles, institution, project summaries, results or conclusions and images, might be included in such public outreach articles. It is not intended that these public articles will disclose directory or demographic information except as aggregated statistical data.

Final Deliverables

At the end of the project, two final reports are required: the Final Technical Report and the Final Financial Report. These reports are due within 30 days, after the subcontract expiration date.

The Final Technical Report will be a multi-page write-up that is suitable for transmission to NASA and BOR. This report should describe the activities undertaken, the participants, and your assessment, as Principal Investigator(s), of the success of the venture, the impact that it had (or will have), any follow-on proposals in preparation/submitted and any further plans for a continuation of this or similar projects. Please also include a full bibliography. Copies of reports, presentations, publications, follow-on proposals, patent related material, technology transfer, or publicity may be submitted as required in the report narrative. These items should contain citations acknowledging NASA EPSCoR/BOR support. This report shall be submitted to the Board of Regents (Jessica.Domingue@REGENTS.LA.GOV) and the LA NASA EPSCoR/ LaSPACE office (laspace@lsu.edu) via email.

The Final Financial Report is an official report that shows the final expenditure of the funds and certifies the cost sharing. This report is to be submitted to the Board of Regents by your university's financial office using the BOR electronic reporting system.

Additional instructions for reporting are given in the sub-award document.

Evaluation Criteria

A panel of external reviewers will rate all of the proposals on the following criteria.

- (25%) Scientific & Technical Merit
- (15%) Relevance to space/aerospace fields
- (10%) Relevance to on-going research project/priority at a NASA Mission Directorate/Center
- (15%) Potential for additional funding at more competitive/higher levels
- (10%) Evidence of NASA enthusiasm based on the letter of interest
- (15%) Demonstrated competency of the proposed team to complete the scope of work
- (10%) Appropriateness of the budget to complete the work; sufficient university investment

RAP Proposal Format & Submittal

RAP proposals should be submitted as fully searchable pdf documents via email to laspace@lsu.edu.

A RAP proposal must include the following completed sections in the order presented:

- RAP Cover Page
- Proposed Project Summary Page
- Current & Pending Support Form
- Proposal Narrative (*not to exceed 10 pages, including figures and tables, no smaller than 11 point font & one inch margins*)
 - Introduction (overview of the scope of work for this proposal, include mention of the NASA mission directorate and any major ongoing NASA research projects this work is relevant to)
 - Background (provide a bigger picture of how the proposed work fits into your overall research plans and the field of study at large).
 - Research Objectives (clearly identify all science and technical objectives for this proposal)
 - Relevance to NASA and NASA Mission Directorates/Centers (identify all the current and potential applications/relevance to NASA, including future scalability of this project and where a larger scale project would fit in).
 - Implementation Strategy and Milestone Schedule (detail exactly what deliverables are expected, when, and by whom; clearly reference any partner institutions if this is a PP)
 - NASA Collaboration Development Plan (map out any contact you have had thus far with a reasonable plan for development over the course of this project, including number of meetings in person or via phone/web technology; be sure to identify what you will get from NASA and what NASA will get from you over the period of the award).
 - Management Plan (layout a hierarchy of individuals/institutions working on the project, a recruitment plan for team members not yet identified, and methods for tracking and reporting progress throughout the project; partnership proposals must clearly divide tasks and layout a clear plan for managing work at multiple institutions).
 - Anticipated Outcomes/Plans for Future Endeavors/Future Collaborations with NASA (include plans for publications, conferences, funding opportunities, and full scale collaborations).
- References Cited within the proposal
- Budget Section: Each participating institution must have its own completed Budget Form followed by a narrative explanation of all costs listed on its form. Explanations are required for both requested funds and proposed cost-shares.
- Letter of Interest from a NASA Researcher
- Short Vita for Principal Investigator (and for Co-I on PP proposals)
- Letter of Commitment from the Co-I on PP proposals

Attachments

Required Proposal Forms

Required Forms for Proposal

All proposals submitted must use the forms included following this page. Proposals not using these forms may be rejected without review.

- Cover Sheet
- Proposed Project Summary
- Current & Pending Support Form
- Proposal Budget Form
- Sample Letter of Commitment for PPs

**A NASA EPSCoR – La BOR RID Project
Research Awards Program (RAP) Cover Sheet**

1. Title of Proposed Project: _____

Is this a _____ SIP or _____ PP project?

2. Principal Investigator: _____

(Name)

(Department)

3. Institution of Higher Education: _____

4. PI Address: _____

(Street Address/P.O. Box Number)

(City, State)

(Zip Code)

5. Telephone: _____ FAX: _____

E-mail: _____

6. NASA Sponsor: _____

(Name)

(Position)

(Center)

(e-mail)

7. Total Funds Requested:\$ _____ Institutional Commitment:\$ _____

Certification of Compliance with Applicable Executive Orders and U.S. Code: By signing and submitting this proposal, the signatories certify that the statements made in this proposal are true and complete to the best of their knowledge; they agree to comply with LaSPACE award terms and conditions if an award is made as a result of this proposal; and the institution and proposed project are in compliance with all applicable Federal and State laws and regulations including, but not limited to, Executive Order 12549, Debarment and Suspension, 34 CFR Part 85, Section 85.510, Participant's responsibilities; Non-Discrimination; Certification against Lobbying imposed by section 1352, title 31, U.S. Code; Compliance with China Funding Restriction as detailed in Public Laws 112-10 Section 1340(a) and 112-55, Section 539; ACORN Compliance in accordance with 534 of the Consolidated and Further Continuing Appropriations Act of 2012 (Pub. L.112-55); and does not have a federal tax liability or federal felony conviction (sections 544 and 543 of Public Law 112-55).

8. Signature of Principal Investigator: _____

9. Name of Authorized Institutional Rep: _____

10. Signature of Authorized Institutional Rep: _____

11. Date Signed: _____

Proposed Project Summary

NAME OF INSTITUTION (INCLUDE BRANCH/CAMPUS AND SCHOOL OR DIVISION)

ADDRESS (INCLUDE DEPARTMENT)

PRINCIPAL INVESTIGATOR

PP PROPOSALS: Co-INVESTIGATOR NAME, INSTITUTION

PROJECT TITLE

ABSTRACT (DO NOT EXCEED 250 WORDS, suitable for general distribution)

Current and Pending Support Form

This Form is to be filled out for the Principal Investigator and the Co-I for PP proposals. For each Project provide the following information: Funding Agency, Title, Funding Amount, Starting and Ending Dates, and Personnel Effort Committed to the Project (person-months or % of effort). Please add additional pages as needed.

1. Current Support

Agency/Grant No.:

Title:

Amount

Period:

Effort:

Location:

Agency/Grant No.:

Title:

Amount

Period:

Effort:

Location:

2. Pending Support

Agency:

Title:

Amount

Period:

Effort:

Location:

Agency:

Title:

Amount

Period:

Effort:

Location:

**A NASA EPSCoR – La BOR RID Project
Research Awards Program (RAP) Budget Request Sheet**

Include a budget narrative page with explanations and justifications for all costs following each budget form submitted.

Proposal Title: _____

Principal Investigator: _____

Institution: _____

	NASA/BORSF Funds Requested	Institutional Contribution*
A. Direct Labor		
1. Researchers	\$	\$
2. Graduate Student(s)	\$	\$
3. Undergraduate Student(s)	\$	\$
4. Fringe Benefits	\$	\$
5. Subtotal A	\$	\$
B. Supportive Expenses		
1. Travel	\$	\$
2. Supplies & Materials	\$	\$
3. Communications	\$	\$
4. Equipment	\$	\$
5. Other Expenses (Identify)	\$	\$
6. Subcontracts	\$	\$
7. Subtotal B	\$	\$
8. F&A (Indirect) **	\$	\$
C. Total Project Cost		
	\$	\$

**Must be certified on all financial billings/reports. ** BOR rate (25% of Subtotal A) allowed.*

Sample Letter of Commitment for Partnership Proposals

Please use university letterhead.

Month, Day, Year

This letter of commitment acknowledges that “**Insert Co-I name**” of “**Insert Institution**” is identified by name as a Co-investigator to the proposal, “**Insert Proposal Title**” that is submitted by “**Insert Name of PI**” from “**Insert Name of Lead Institution**” in response to the **Louisiana NASA/BoR EPSCoR RID call for proposals for the Research Awards Program (RAP)**. The Co-I confirms his/her intent to carry out all responsibilities identified in this proposal. We understand that the extent and justification of our institution’s participation as stated in this proposal will be considered during peer review in determining in part the merits of this proposal. We have read the entire proposal, including the management plan and budget, and agree that the proposal correctly describes our institution’s commitment to the proposed project under review.

Co-I Printed: **Full Name**

Co-I Signature: _____

Authorized Institutional Rep Printed: **Full Name**

Authorized Institutional Rep Signature: _____