LaSPACE

Research Enhancement Award (REA) Program

Notice of Funding Opportunity (NOFO) & Proposal Guidelines

Offered by the Louisiana Space Grant Consortium



Under the authority of the NASA Space Grant College and Fellowship Program & the Louisiana Board of Regents

Louisiana Space Grant Consortium (LaSPACE)
364 Nicholson Hall, Department of Physics and Astronomy
Louisiana State University, Baton Rouge, LA 70803
225.578.8697 | http://laspace.lsu.edu/ | laspace@lsu.edu

REA Program Summary Page

About Research Enhancement Awards (REA)

The LaSPACE Research Enhancement Awards (REA) Program is intended to provide support for faculty (and students) at LaSPACE member institutions, particularly aimed at the emerging researcher or an established researcher who wishes to pursue new research directions, for the development of projects, contacts, and collaborations that will bring Louisiana scientists into the mainstream of NASA related research activity, thereby increasing their chances to successfully compete in the aerospace R&D marketplace. As with all LaSPACE Programs, minority participation is strongly encouraged. The REA Program is funded by state matching funds, through the Louisiana Board of Regents Support Fund. The awards are intended to develop expertise and to contribute to research competitiveness. However, awards are not intended purely to support faculty salaries or student stipends. It is anticipated (and advised) that students will be involved in REA projects, but the overriding goal is the development of research capabilities and infrastructure in support of the country's space/aerospace endeavors. Contacts/collaborations/ties to NASA centers and NASA researchers are strongly encouraged.

Program Summary

- A **Notice of Intent (NOI)** to propose is required for the REA program. NOIs do not need to be routed for institutional approvals/signature the way the final proposal needs to be.
- The overall goal for this Program is to effectively utilize the resources available through LaSPACE as incentive for faculty and students: 1) to develop research competitiveness, 2) to develop new research projects or directions, and 3) to foster collaborations with NASA researchers, federal laboratories, and with the business/industry community.
- Faculty at the level of Assistant/Research Professor or higher affiliated with LaSPACE campuses are eligible to apply. On ALL proposals, only one PI can be proposed. Additional personnel should be listed as key personnel / researchers.
- Pls may only submit one proposal per competition cycle.
- Proposals must be signed off on by the Project PI and the Authorized Organizational Representative for Sponsored Programs at your institution.
- Student tuition is expressly forbidden on requested funds but is allowed as part of the institutional match.
- The final invoice and a final project report typically written by the graduate student and signed off on by the Faculty PI must be submitted to the LaSPACE office within 30 days of the project end date. Photographs and copies of all papers, presentations, and posters generated should be shared with LaSPACE as they occur and collected/referenced in the Final Report. Final Report guidelines can be downloaded from the LaSPACE website's document center. A link to our new online reporting tool is also available.

Proposal Submissions

- Submit all properly executed proposals via email as fully searchable pdf documents to laspace@lsu.edu by 11:59 pm on Monday, April 22, 2024.
- Important Dates:
 - o Proposal Release Date: Tuesday, January 23, 2024
 - o NOI Due Date: Monday, March 18, 2024
 - o Proposal Due Date: Monday, April 22, 2024
 - Anticipated Award Announcements: May 2024
 - o Award Period of Performance: 08/15/2024 05/31/2025

LaSPACE General Guidelines

Introduction to the Louisiana Space Grant Program

The Louisiana Space Grant Consortium (LaSPACE) is a Designated Consortium in the NASA National Space Grant and Fellowship Program network, which was designed to network colleges, universities, and state education boards with partners in business, industry, and the non-profit sector in order to promote, develop, and strengthen aerospace science, research, technology, education, and awareness. Our mission is "To enhance Space and Aerospace related research, education, and public awareness throughout the State of Louisiana and thereby promote math/science education, training of professionals, and economic development." LaSPACE promotes scientific research, workforce development, and public outreach to develop and strengthen long-term research capabilities within Louisiana that will make significant contributions to the research and technology Mission Directorates of NASA while supporting the goals of the state.

Basis of Authority

The Louisiana Space Grant Consortium (LaSPACE) currently comprises Louisiana public and private colleges and universities in addition to business/industry partners and other organizations. The consortium is funded jointly by the National Aeronautics and Space Administration (NASA) and by the Louisiana Board of Regents Support Fund (BORSF). The consortium is administered by the LaSPACE Council, under the aegis of NASA and the Board of Regents. The basis of authority for this and other programs of LaSPACE rests in part on the above funding. It is important, therefore, to note that the implementation of LaSPACE-supported projects must conform to applicable Federal and State regulations, in general, and to the NASA stipulations, in particular.

NASA Agency Information

NASA 2022 Strategic Plan

NASA's 2022 strategic plan aligns the Agency's future activities along three strategic themes of Discover, Explore, and Develop, as well as a fourth theme focused on the activities that will enable the Agency's mission.

- DISCOVER references NASA's enduring purpose of scientific discovery.
- EXPLORE references NASA's push to expand the boundaries of human presence in space.
- DEVELOP references NASA's broad mandate to promote the technologies of tomorrow.
- ENABLE references the capabilities, workforce, and facilities that allow NASA to achieve its Mission.

The complete plan can be downloaded here.

NASA Vision

To discover and expand knowledge for the benefit of humanity.

NASA Mission

Lead an innovative and sustainable program of exploration with commercial and international partners to enable human expansion across the solar system and bring new knowledge and opportunities back to Earth. Support the growth of the Nation's economy in space and aeronautics, increase understanding of the universe and our place in it, work with industry to improve America's aerospace technologies, and advance American leadership.

NASA Office of STEM Engagement

NASA's journeys have propelled technological breakthroughs, pushed the frontiers of scientific research, and expanded our understanding of the universe. These accomplishments, and those to come, share a common genesis: education in science, technology, engineering, and math. NASA's <u>Office of STEM Engagement</u> (OSTEM) delivers tools for young Americans and educators to learn and succeed. OSTEM seeks to:

- Create unique opportunities for students and the public to contribute to NASA's work in exploration and discovery.
- Build a diverse future STEM workforce by engaging students in authentic learning experiences with NASA people, content, and facilities.
- Strengthen public understanding by enabling powerful connections to NASA's mission and work.

To achieve these goals, NASA's Office of STEM Engagement strives to increase K-12 involvement in NASA projects, enhance higher education, support underrepresented communities, strengthen online education, and boost NASA's contribution to informal education. The intended outcome is a generation prepared to code, calculate, design, and discover its way to a new era of American innovation.

The National Space Grant College and Fellowship Program, from which LaSPACE is derived, is a component of the NASA Office of STEM Engagement's larger portfolio, managed at NASA Headquarters in Washington D.C., in alignment with the NASA Mission Directorates, and engagement with all NASA centers and facilities.

NASA Office of STEM Engagement, and by extension LaSPACE, supports the four strategic goals detailed in the 2018 plan. Research and design work supported by Space Grant or NASA EPSCoR must align with one or more of these strategic goals and corresponding objectives.

NASA Mission Directorates (MD)

Research and technology priorities are aligned with one or more of NASA's Mission Directorates:

The <u>Science Mission Directorate (SMD)</u> expands the frontiers of Earth science, heliophysics, planetary science, and astrophysics. Using robotic observatories, explorer craft, ground-based instruments, and a peer-reviewed portfolio of sponsored research, SMD seeks knowledge about our solar system, the farthest reaches of space and time, and our changing Earth.

The <u>Aeronautics Research Mission Directorate (ARMD)</u> transforms aviation with research to dramatically reduce the environmental impact of flight, and improves aircraft and operations efficiency while maintaining safety in increasingly crowded skies. ARMD also generates innovative aviation concepts, tools, and technologies for development and maturation by the aviation community.

The <u>Space Technology Mission Directorate (STMD)</u> pursues transformational technologies that have high potential for offsetting future mission risk, reducing cost, and advancing existing capabilities. STMD uses merit-based competition to conduct research and technology development, demonstration, and infusion of these technologies into NASA's missions and American industry. This mission directorate is being refocused as a new Exploration Research & Technology (ER&T) organization to support exploration as a primary customer.

The <u>Human Exploration and Operations Mission Directorate (HEOMD)</u> has been divided back into two MDs. The **Exploration Systems Development Mission Directorate (ESDMD)** will define and manage systems development for programs critical to Artemis and plan the Moon to Mars exploration approach in an integrated manner. The **Space Operations Mission Directorate (SOMD)** will focus on launch and space operations,

including the International Space Station, the commercialization of low-Earth orbit, and eventually, sustaining operations on and around the Moon.

All NASA subprograms must relate to and support one or more of these directorates. Likewise, all programs supported by LaSPACE must support the NASA organization, align with the NASA Strategic Plan, and support the goals of the Office of STEM Engagement.

NASA MD Contacts for University Researchers

Science Mission Directorate (SMD)

POC: Kristen Erickson, Director, Science Engagement Partnerships Phone: (202) 358-1017, kristen.erickson@nasa.gov

The Aeronautics Research Mission Directorate (ARMD)

POC: Dave Berger, OSTEM Embed for Aeronautics, Phone: (661) 276-5712, dave.e.berger@nasa.gov

Space Technology Mission Directorate (STMD)

POC: Damian Taylor, SBIR and STTR Mission, Directorate Liaison Phone: (202) 358-1432,

damian.taylor@nasa.gov

Exploration Systems Development Mission Directorate (ESDMD)

POC: Greg Chavers, DAA for HEO System Engineering & Integration, Phone: (256) 544-0494,

greg.chavers@nasa.gov

Space Operations Mission Directorate (SOMD)

POC: Marc Timm Phone: (202) 358-0373, marc.g.timm@nasa.gov

NASA Center Liaisons

Armstrong Flight Research Center Veronica Wilson veronica.l.wilson@nasa.gov	Johnson Space Center Jakarda Varnado jakarda.w.varnado@nasa.gov
Ames Research Center Veronica Wilson veronica.l.wilson@nasa.gov	Kennedy Space Center Patricia Gillis patricia.j.gillis@nasa.gov
Goddard Space Flight Center James Harrington james.l.harrington@nasa.gov	Langley Research Center Bonnie Murray bonnie.murray@nasa.gov
Glenn Research Center Gerald Voltz gerald.w.voltz@nasa.gov	Marshall Space Flight Center Vemitra Alexander vemitra.m.white@nasa.gov
Jet Propulsion Lab Petra Kneissl petra.a.kneissl-milanian@jpl.nasa.gov	Stennis Space Center Louis Thompson louis.m.thompson@nasa.gov

LaSPACE Program

The Louisiana Space Grant Consortium, part of the National Space Grant College and Fellowship Program and in partnership with the Louisiana Board of Regents, supports programs at affiliated academic institutions and other Louisiana organizations that address the NASA mission, federal CoSTEM goals, and state education and economic priorities. LaSPACE programs for Research, Higher Education, Workforce Development, K-12 Teacher Development, and Public Outreach, strengthen the Science, Technology, Engineering, and Math (STEM) education needed for a diverse technical workforce, and develops the research and economic infrastructure to boost Louisiana's contribution to the aerospace frontier.

Goals and Objectives

LaSPACE Goals and Objectives are directly aligned with NASA Office of STEM Engagement and National Program Emphases on Diversity, Workforce Development, Community Colleges, Pre-College teacher engagement, Competitiveness, NASA Research Relevance, Industry Relations, and State Government Involvement. The updated LaSPACE 2019 Strategic Plan describes a comprehensive program of Research, Education, and Service via 5 strategic goals, each in line with one or more NASA OSTEM objectives, to (1) Foster aerospace research and education (OSTEM 1.1, 1.2, 2.1, 2.2, 2.4, 3.2), (2) Foster and support hands-on experiential programs for higher education students (2.1, 2.2, 2.3, 2.4), (3) Contribute to pre-college STEM education excellence (1.2, 3.1), (4) Engage and educate the general public (3.1), and (5) Maintain an effective consortium of institutions involved in LaSPACE.

Major objectives for the achievement of these goals includes (1) Support for student and faculty research at consortium institutions, (2) Strengthening interactions between Louisiana aerospace industries, faculty, and students, (3) Increased participation in Space Grant programming with the state's HBCUs and Community & Technical Colleges, (4) Provide support to undergraduate and graduate students for research, design, and internship opportunities, (5) Engage students in experiential learning environments, (6) Support middle and high school educator training, and (7) Foster informal education and public outreach. Proposals to LaSPACE programs should explicitly support one or more of these seven objectives.

LaSPACE Program Team & Affiliate Representatives

General administration and management is the responsibility of the LaSPACE Team headquartered at LSU. Questions about applications to any LaSPACE programs should be directed to the program management team via the general laspace@lsu.edu email address. Unless otherwise directed, all proposals, invoices, reports, and queries should also be submitted via email to the program email address (laspace@lsu.edu). Please refer to the-taspace@lsu.edu). Please refer to the-taspac

LaSPACE Program Office, laspace@lsu.edu, 225-578-8697

LSU Department of Physics & Astronomy | 364 Nicholson Hall, Baton Rouge, LA 70803

T. Gregory Guzik, Director, tegguzik@lsu.edu | Colleen H. Fava, Assistant Director, colleenf@lsu.edu |

Doug Granger, Student Flight Program Manager, dgrang2@lsu.edu |

Aaron Ryan, Student Flight Program Instructor & Outreach Coordinator, aryan21@lsu.edu

Additionally, all member institutions have appointed an affiliate representative who sits on the LaSPACE Advisory Council and is available to discuss opportunities and processes related to LaSPACE programs. Contact information for all affiliates is provided below. For institutions with a vacancy, contact the LaSPACE program office at LSU.

LaSPACE Affiliate Representatives

Baton Rouge Community College (BRCC)	vacant	vacant	vacant
BREC / Highland Road Park Observatory (HRPO)	Christopher Kersey	o@brec.org	225-768-9948
Cain Center for STEM Literacy (Cain Center)	Frank Neubrander	fneubr1@lsu.edu	225-578-4082
Delgado Community College (DCC)	Raymond Duplessis	rduple@dcc.edu	504-671-6419
Dillard University (Dillard)	Abdalla Darwish	adarwish@dillard.edu	504-816-4840
East Baton Rouge Parish Library (EBRPL)	Mary Stein	mstein@ebrpl.com	225-231-3710
Grambling State University (GSU)	vacant	vacant	vacant
LaSTEM at LA BOR (LaSTEM)	Clint Coleman	Clint.coleman@laregents.edu	504-352-4891
Louisiana Arts and Science Museum (LASM)	vacant	vacant	vacant
La Board of Elementary & Secondary Education (BESE)	Ann Wilson	ann.wilson@la.gov	225-342-0140
Louisiana Board of Regents (BOR)	Jessica Patton	jessica.domingue@la.gov	225-342-4253
Louisiana Business and Technology Center (LBTC)	Roy Keller	rkeller@lsu.edu	225-578-3985
Louisiana Civil Air Patrol (La CAP)	Jud Ergle	fergle@cap.gov	504-756-9255
Louisiana Community and Technical College System (LCTCS)	Susana Schowen	SusanaSchowen@lctcs.edu	225-588-9944
Louisiana Economic Development (LED) FastStart	Paul Helton	paul.helton@la.gov	225-313-5543
Louisiana Public Broadcasting (LPB)	vacant	vacant	vacant
Louisiana State University and A&M College (LSU)	Stephen D. Beck	sdbeck@lsu.edu	225-578-5833
Louisiana State University at Alexandria	vacant	vacant	vacant
Louisiana State University Agricultural Center (LSU-Ag)	Wade Baumgartner	wbaumgartner@agcenter.lsu.edu	225-578-7742
Louisiana State University Health Sciences (LSUHSC)	Diana Cruz-Topete	diana.cruz@lsuhs.edu	318-675-4213
Louisiana State University of Shreveport (LSUS)	Urska Cvek	urska.cvek@lsus.edu	318-675-5128
Louisiana Tech University (LaTech)	Mary Caldorera- Moore	mcmoore@latech.edu	318-257-2207
Loyola University (Loyola)	Martin McHugh	mmchugh@loyno.edu	504-865-2451
McNeese State University (McNeese)	Ning Zhang	nzhang@mcneese.edu	337-475-5873
National Center for Biomedical Research & Training (LSU-NCBRT)	Jason Krause	jkrause@ncbrt.lsu.edu	225-578-0285
Nicholls State University (Nicholls)	Matt Marlow	matthew.marlow@nicholls.edu	985-448-4576
Northshore Technical Community College (NTTC)	Chuck Crabtree	<u>charlescrabtree@northshorecollege.edu</u>	985-545-1231
Northwestern State University of Louisiana (NSULA)	Anna Dugas	dugasa@nsula.edu	318-357-5519
Nunez Community College (NCC)	vacant	vacant	vacant
River Parishes Community College (RPCC)	Esperanza Zenon	ezenon@rpcc.edu	225-743-8713

SciPort Louisiana's Science Center	Heather Kleiner	hkleiner@sciport.org	318-424-3466
Southeastern Louisiana University (SELU)	Gerard Blanchard	gerard.blanchard@selu.edu	985-549-2159
Southern University and A & M College (SUBR)	Michael Stubblefield	michael stubblefield@subr.edu	225-771-5231
Southern University of New Orleans (SUNO)	Illya Tietzel	<u>itietzel@suno.edu</u>	504-286-5111
Tulane University (Tulane)	Mark J. Fink	fink@tulane.edu	504-862-3568
University of Louisiana at Lafayette (ULL)	Afef Fekih	afef.fekih@louisiana.edu	337-482-5333
University of Louisiana at Monroe (ULM)	Ken Leppert	leppert@ulm.edu	318-342-1918
University of New Orleans (UNO)	Matthew Tarr	mtarr@uno.edu	504-280-6836
Xavier University of Louisiana (Xavier)	Ashwith K. Chilvery	achilver@xula.edu	504-520-5149

LaSPACE Requirements and Restrictions

In this section, requirements and restrictions applied to all LaSPACE programs are summarized. Additional requirements and restrictions pertaining to individual programs offered by LaSPACE are detailed later in these guidelines.

Public Nature of Applications to LaSPACE

Once an application is received in the LaSPACE office, 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 LaSPACE programs must conform to applicable Federal, State and NASA 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, LaSPACE outreach includes public dissemination of its supported programs through newsletters, press releases, the LaSPACE website (https://laspace.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. The reporting format provided by the LaSPACE office must be used for all progress and final reporting on LaSPACE awards. Additional reporting, such as disclosure of inventions resulting from LaSPACE funded projects, must be submitted using NASA forms. The NASA Form 1679 (NF1679) - Disclosure of Invention and New Technology (Including Software) must be completed by the Subawardee's institution for submittal to LaSPACE and NASA. A Microsoft Word version of NF1679 can be accessed here: https://invention.nasa.gov/assets/downloads/nf1679.doc

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. LaSPACE is committed to addressing this priority and utilizing its programs, to the degree possible, to increase the diversity among its awardees. LaSPACE also aims to support a diverse set of institutions and disciplines. All proposers are expected to help recruit diverse participants to their proposed projects.

To ensure that PIs are making a reasonable effort to recruit diverse participants, a diversity recruitment plan must be included in all proposals submitted to LaSPACE. PIs should expand recruitment to include efforts with local chapters of underrepresented groups such as the National Society of Black Physicists, National Society of Black Engineers, National Organization for the Professional Advancement of Black Chemists and Chemical Engineers, Society of Women Engineers, etc. Even for programs where students have already been selected at the time of proposal (e.g. GSRA, LURA, HIS, etc.), the general diversity recruitment plan for the PI's lab must be detailed, as well as the specific efforts used to recruit the proposed student participant(s).

Animal Use

Any project proposing the use of an animal model for validation <u>must include a local IACUC approval letter, fully signed, which specifies a validity period longer than the proposed project period</u>. 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 <u>not acceptable</u> for this program.

Eligibility

PI must be authorized by an affiliated institution to serve as Principal Investigator on behalf of said institution. Note that there is only one Principal Investigator (PI) for a given REA project. All other senior researchers involved with the project can be listed as Key Personnel. Additional, or altered, restrictions may apply to specific programs.

Budgeting

Proposals submitted to this solicitation should keep their budgets within \$30-\$35k with a 100% cost match. For example, if you request \$32,500 in funding, you must provide a cost-match equal to or higher than \$32,500.

While equipment and foreign travel are technically allowed under Louisiana Board of Regents rules, such items must be well justified and might cause the proposal to not review well. Currently BOR funds are exclusively used to fund Space Grant REA projects. When available, NASA funding may be considered to fund additional, qualified proposals.

LaSPACE permits indirect (F&A) costs at the BOR rate (currently calculated as 25% of Salaries, Wages, and Fringe) on all REA proposals (Unrecovered F&A is an allowed form of cost sharing). The LaSPACE program management team may choose to use available NASA funds to support an REA project, and in such instances the proposing institution agrees to retain the BOR indirect rate charges, as originally proposed. All proposed F&A charges applied (LaSPACE requested funds & Cost-share funds including unrecovered indirect) must be calculated in detail in the budget narrative section.

Further, LaSPACE is a federal-state partnership -- a 'seed' program -- that requires local matching funds to be generated. A significant cost sharing by the submitting institutions is required (approximately 1:1). Cost sharing indicates an institution's commitment to the proposed project and is one of the criteria used by the reviewers in their evaluation.

Applications solely for the acquisition of equipment, or solely to support a graduate student, will not be funded. However, some support for graduate and undergraduate students is anticipated within an application. Student tuition is *not* an allowable expense on requested funds but may be included as part of the proposed cost-share.

Funds are intended to be used to support research related activities of the participants. Research-related travel funds may be included in the budget, including conference registration fees to present results of LaSPACE funded research and/or for students to participate in a student paper/poster session (Louisiana State travel regulations apply to all travel).

Purchase of general office computers/software is not allowed unless it is specifically designated for the research, such as a dedicated laptop used on a research vessel, or the like. Other research-related expenditures will be considered on a case-by-case basis.

Any requests to rebudget funds must be submitted in writing to laspace@lsu.edu for consideration. A completed LaSPACE Budget Revision Request Form (available for download from the LaSPACE Document Center) must be included and minimum requirements for direct student funding commitments must be met.

Disbursement of Funds

LaSPACE Award fund distribution will be managed by the applicant's college or university, either via a cost-reimbursable subcontract if the applicant is at an affiliate other than LSU, or by transfer of funds from LaSPACE to the applicant's department for projects at LSU. The institution/department will assume responsibility for administering, distributing, and documenting costs charged to this program.

Period of Performance

Unless otherwise stated, LaSPACE programs have a default period of performance of no greater than 9.5 months. Shorter periods of performance may be proposed, or even required by the LaSPACE office, to meet any requirements or restrictions related to the parent grant. A proposed period of performance is provided for each program cycle on the summary page; proposers may request a different period within 60 days after our proposed start date, unless otherwise indicated and with advance permission from the LaSPACE Management team. For the GSRA program, a period of performance of 1 semester is not appropriate.

Number and Duration of Awards

LaSPACE expects to issue 5 to 8 REA subawards annually.

No-Cost Extensions

LaSPACE will no longer consider full-year No-Cost Extensions (NCEs). We may consider NCE requests for up to 6 months. We are getting more pressure from NASA to complete as much spending as possible within each program year. It is harder to justify NCEs for our subawarded projects. We need you to propose an NCE for *only exactly how much additional time you need*. If we deem that there are avoidable reasons for you needing an NCE, it may be rejected. Do your best to spend according to your proposed timeline. Reach out earlier rather than later if you hit early snags.

NCE's for ongoing projects may be submitted to the LaSPACE program office no later than 60 days before the initial project end-date. All NCE requests must be submitted to laspace@lsu.edu and must include a status 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 (students, post-docs, faculty, and staff). We anticipate that No Cost Extensions will not be available for awards issued for the 2024-2025 program year.

Invoicing & Reporting Requirements

Invoices must be submitted monthly by the 15th of the month, beginning no later than the second full calendar month of the award period using the billing form available in our document center. Example: For awards with a period of performance of 08/15/2024—05/31/2025 the first invoice must be submitted in October by 10/15/2024 with additional invoices submitted before the 15th of each subsequent month. The final invoice must be submitted within 30 days of the of the last day of the period of performance. For the example period of performance, the final invoice would be due by 06/30/2025.

A final report must be submitted by the PI/Project Lead no later than 30 days after the project end date. Photographs and copies of all papers, presentations, and posters generated should be shared with LaSPACE as they occur and collected/referenced in the final report. Final Report guidelines can be downloaded from the LaSPACE website's document center. Please review the reporting guidelines at the start of your project to identify in advance the kinds of information you must share at the end of your award. For example, you must track participation hours & total funding per student and collect reflective statements from your students. Develop a plan to collect this info early!

Failure to submit timely invoices and reports may result in new restrictions and requirements, including a potential suspension of eligibility to apply for LaSPACE funding.

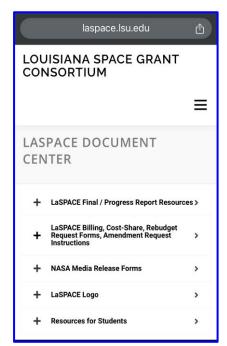


Figure 1: Screen Shot of the LaSPACE website's Document Center showing available content linked there; including Reporting Resources, Billing/Budgeting forms, Media Releases, the LaSPACE Logo, and Resources for Students.

LaSPACE Annual Meeting Participation

Funded participants are expected to make every effort to attend the LaSPACE Annual Meeting held during the fall semester on a Friday and Saturday at a different affiliate institution each year. For the 2024 meeting we will meet at Southeastern Louisiana University in Hammond, LA on October 4 & 5. Information will be sent out to our affiliate representatives and funded awardees and posted to our website here. Recently/currently funded students are expected to present a poster at the student poster session on Saturday.

Assessment by External Reviewers

All applications that meet the eligibility requirements and guidelines established for this program will be reviewed by out-of-state consultants for merit. A strong proposal will clearly address each of the following:

- 1. Scientific and Technical merit of the proposed project.
- 2. Relevance of the project to aerospace goals and alignment with NASA and one of its Mission Directorates or Centers.
- 3. Competency of the project personnel with emphasis on the potential degree of enhancement and of the probability for the project to lead to increased competitiveness and subsequently funded work.
- 4. Degree to which new research directions and capabilities are to be developed.
- 5. Contribution of the project to increasing diversity, particularly under-represented groups, women, and persons with disabilities.

6. Degree to which the project will contribute to workforce development and human capital needs, both locally and nationally.

After receiving the recommendations of the out of state reviewers, LaSPACE will prepare a report on the evaluations for the Board of Regents (BOR). Once approved by the BOR, award letters will be issued, and subcontracts will be drafted by the LSU Office of Sponsored Programs (OSP).

Evaluation Criteria

Each proposal submitted under the Research Enhancement Awards Program will be evaluated by out-of-state reviewers from Space/Aerospace fields, but not generally by an expert in any subject area. Sufficient information must be clearly stated by the proposer to allow the reviewer to make an informed judgment. Failure to supply the appropriate information will lead to lower scores and non-funding of the project. Proposals will be evaluated using the following criteria which are reflective of LaSPACE Goals and Objectives and the NASA Mission.

- 1. The degree to which this proposal is relevant to Aerospace goals and to NASA's Mission (15%).
- 2. Scientific and technical merit of the proposed project (25%).
- 3. Competency of the proposer(s) to carry out the research plan and achieve the stated goals (10%).
- 4. Probability for the project to develop new capabilities and its potential for increased involvement in Space or Aerospace R & D for the investigator(s) (10%).
- Adequacy of the project goals and objectives and the cited project outcomes (5%).
- 6. Appropriateness of the budget to carry out the project, including institutional contributions or other matching funds (10%).
- 7. Degree of student involvement in the Research Plan (10%).
- 8. Degree to which the project contributes to workforce and/or economic development (5%).
- 9. Contribution of the proposed project to increased diversity (10%).

Research Enhancement Award (REA)

Application Guidelines

About the REA Program

The LaSPACE Research Enhancement Awards (REA) Program is intended to provide support for faculty (and students) at LaSPACE member institutions, particularly aimed at the emerging researcher or an established researcher who wishes to pursue new research directions, for the development of projects, contacts, and collaborations that will bring Louisiana scientists into the mainstream of NASA related research activity, thereby increasing their chances to successfully compete in the aerospace R&D marketplace. The REA Program is funded by state matching funds, through the Board of Regents Support Fund. The awards are intended to develop expertise and to contribute to research competitiveness. However, awards are not intended purely to support faculty salaries or graduate student stipends. It is anticipated (and strongly advised) that students (both graduate and undergraduate) will be involved in REA projects, but the overriding goal is the development of research capabilities and infrastructure in support of the country's space/aerospace endeavors. In that regard, contacts / collaborations / ties to NASA centers and NASA researchers are strongly encouraged.

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. LaSPACE is committed to addressing this priority and utilizing its programs, to the degree possible, to increase the diversity among its awardees. <u>All proposers are expected to help recruit diverse participants to their proposed projects.</u> To ensure that PIs are making a reasonable effort to recruit diverse participants, a diversity recruitment plan must be included in all proposals submitted to LaSPACE.

The overall goal for the REA Program is to effectively utilize the resources available through LaSPACE as incentive for faculty and students: 1) to develop research competitiveness, 2) to develop new research projects or directions, and 3) to foster collaborations among NASA researchers, other federal laboratories, and with the business/industry community.

The REA Program is intended to support LaSPACE Goals with the objective to build research infrastructure:

- 1. To increase, in quantity and in quality, Louisiana's production of aerospace and related science and engineering graduates and professionals,
- 2. To enhance in scope, depth, and number, research and development activities in aerospace and related sciences and engineering, and
- 3. To indirectly increase aerospace and related industries in the state -- not only for economic development but also for economic diversification.

NOI Program Requirement for REAs

An NOI is required for LaSPACE REA proposals. Only proposers who have successfully submitted an NOI are eligible to submit an REA proposal. NOIs do not need to be routed through for institutional approvals/signature the way the final proposal needs to be. NOIs are required so that our office has more time to line up appropriate reviewers in advance of the proposal submittal date. The NOI deadline is provided on the program summary page and the form and instructions for submitting an NOI are included with all the other forms at the end of these guidelines.

REA Proposal Requirements & Format

All proposals submitted to LaSPACE must follow the format listed below. Proposals not constructed as follows may be rejected without review. Any forms mentioned below are included in the attachments following these guidelines.

- LaSPACE REA Program Proposal Cover Sheet
 - Proposals must be signed off on by the Project PI and the Authorized Organizational Representative for Sponsored Programs at your institution.
- Table of Contents
- Prior LaSPACE Awards Form
- Proposed Project Summary Form

The project summary (abstract) must be 250 words or less. It should concisely describe the proposed project, giving the objectives, key features, and proposed outcomes, and provide a timetable for project implementation. How the proposed research supports the goals and objectives of at least one NASA Mission Directorate must be explicitly stated and named, as well as any relevant NASA Centers. Summaries are to be written in general terms, understandable by a non-expert in the field.

A. Project Narrative

The project narrative should not exceed ten (10) single-spaced pages (11-12 point font). Subsections of the narrative should include, in the order listed, the following:

- 1) Introduction: State the technical or scientific problem to be addressed.
- 2) **Objectives of the Project:** Scientific, technical objectives, workforce development, diversity objectives, and research capability development should be concisely delineated.
- 3) Implementation Strategy or Scientific Method and Timetable: The scientific and technological methodology to be employed in the work should be succinctly described. Strategies germane to the successful implementation of the project should be discussed. A concise timetable, preferably in a tabular form, should be provided. Key milestones toward the successful completion and possible continuation and expansion of the project should be shown in this table along with measurable outcomes from the project.
- 4) Relevance to NASA Mission: While direct collaboration with a NASA Center is not a requirement of the REA Program, it is desirable if possible. Previous or potential collaborations with NASA should be mentioned; explicit alignment with research goals established within at least one Mission Directorate must be stated.
- 5) Long Term Benefits: Describe the expected long-range benefits from the project to Space and Aerospace R & D and infrastructure at the institution, as well as to the project personnel. Describe your plan for dissemination of the results. Discuss plans and prospects for submitting a follow-up proposal to NASA, other federal agencies, BORSF, or non-public sources. Describe patent potential, if applicable.
- 6) **Key Personnel/Management:** Identify the key personnel and succinctly describe their qualifications and experiences as they relate to the successful execution, continuation, and expansion of the project. Discuss how the project contributes to creating a diverse workforce and meeting the human capital needs of government, industry, and academia.
- 7) Student Participants: NASA is committed to the development of a strong aerospace workforce. Thus, proposers are expected to make every effort to include students from traditionally underrepresented groups in STEM. Specific plans for diversity recruitment must be detailed in this

- **section.** NASA requires detailed longitudinal information on all participants, especially on students. Thus, all students must complete the online LaSPACE Student Participation Form with required demographic, contact, and future career information (links provided on Student Participant List attachment). **Include the Student Participant List in this section of the proposal.** Include your plan to document the funds distributed to each student researcher and their total contact hours.
- B. NASA Media Release Form (submitted online by PI and all identified student participants). If other project collaborators appear in photos, please have them also complete a NASA Media Release Form.
- C. Budget, Budget Narrative, and Current/Pending Support

 Please provide the project budget on the Budget Form provided. Note that F&A for the LaSPACE Funds

 Requested is calculated at the BOR rate of 25% of salaries, wages, and fringe benefits only. Unrecovered

 F&A may be included as part of your Institutional Match Funds. Tuition is not an allowable cost on

 requested funds but may be included as part of the institutional match. You will be required to

 document the institutional contributions on your cost-share forms submitted with billings. The Budget

 Narrative should be provided on a separate page; they should be succinct, but provide sufficient

 information for a reviewer to judge the need for and importance of the items requested. Budget

 explanations must also include a formula explaining how F&A is calculated in both the requested and

 cost-shared budget columns, including how any institutional contribution of unrecovered F&A was

 calculated. Following the budget explanations, provide current and pending support information for the

 Principal Investigator. Awarded proposals may be required to modify their budgets, if sponsored

 programs accounting identifies calculation errors.
- D. Vita/Resume
 Attach a two-page Vitae for the Principal Investigator. There can only be one Principal Investigator per project proposal.
- E. Letter of Support (if applicable)

 If the proposal involves work with a NASA center or other Federal laboratory or with a business-industry partner, attach a letter of support from the contact at the collaborating/participating institution (an email is acceptable). A strong letter of support, describing the specific contributions in personnel or facility/laboratory use, will reflect well. Letters of support for the research goals without an explicit commitment of collaboration are also appropriate for this program.

Notes for Success

- Remember, the reviewers will not be experts in all sub-fields. They will be generalists, usually faculty members at other universities. Avoid highly technical jargon as much as possible and write at a level for the average scientist/engineer in a clear and concise fashion, i.e. what has been called the "Scientific American Level." Keep in mind also that the proposal is your opportunity to present yourself in the most positive light and to emphasize your best points and accomplishments (and/or research career plans) in your research efforts. Any prior or planned contacts with NASA or aerospace-related institutions should be mentioned. Follow the format instructions and respond clearly to the requested information. Diversity and involving undergraduates or graduate students in the research, along with opportunities for student papers/posters or as co-authors is expected. Review the Proposal Evaluation Criteria for additional hints for discussion points for a successful proposal.
- Do NOT include anything that is not explicitly listed above. If you believe additional content/sections are needed, contact our office at laspace@lsu.edu to request permission.
- Do NOT include the guidelines in your proposal submission.

Attachments Required Proposal Forms

Required Forms

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

- Notice of Intent Submit this prior to submitting your proposal
- LaSPACE REA Program Proposal Cover Sheet (*Note: Proposals must be signed off on by the Project PI and the Authorized Organizational Representative for Sponsored Programs at your institution.*)
- Proposed Project Summary
- Prior LaSPACE Awards
- LaSPACE Proposed Budget Form
- Student Participant List & Form Submission Confirmations
- NASA Media Release Form (submitted online by PI and all identified student participants)

LaSPACE REA Program Notice of Intent (NOI) to Propose

This NOI must be submitted by the PI to LaSPACE on, or before, Monday, March 18, 2024 via email to laspace@lsu.edu.

NAME OF PRINCIPAL INVESTIGATOR (PI):	NAME INSTITUTION:
PI DEPARTMENT	PI PHONE NUMBER and EMAIL ADDRESS
TITLE OF PROPOSED PROJECT.	
TITLE OF PROPOSED PROJECT:	
LIST PROJECT DISCIPLINES:	
THE PROPOSED WORK WILL SUPPORT THE RESEARCH PRIORITIES OF THE that apply to your project. Narrative proof for selected alignment(s) m	HE FOLLOWING NASA DIRECTORATES AND NASA FIELD CENTERS (Check all ust be included in your proposal narrative.):
	□ESDMD □SOMD
NASA Center (If Applicable):	
PROJECT ABSTRACT (maximum 250 words):	

LaSPACE REA Program Proposal Cover Sheet

1.	Title of Proposed Projec	:t:		
2.	Principal Investigator:			
	, ,	(Name)		
		(Department)		
3.	Institution of Higher Ed	ucation:		
4.	Address:			
	(Street	Address/P.O. Bo	ox Number)	
	(City, S	tate)	(Zip Code)	
5.	Telephone:		FAX:	
	E-mail:			
6.	Date of Submission:			
7.	Total Funds Requested:	\$	Institutional Match: \$	
***	*******	******	**********	*****
certif LaSPA comp and S by see 55, Se	y that the statements made in thi ACE award terms and conditions if liance with all applicable Federal uspension, 34 CFR Part 85, Sectio ction 1352, title 31, U.S. Code; Co ection 539; ACORN Compliance in	s proposal are true ar an award is made as and State laws and re n 85.510, Participant' mpliance with China F accordance with 534	ers and U.S. Code: By signing and submitting and complete to the best of their knowledge; a result of this proposal; and the institution egulations including, but not limited to, Exect responsibilities; Non-Discrimination; Certif Funding Restriction as detailed in Public Law of the Consolidated and Further Continuing I felony conviction (sections 544 and 543 of	they agree to comply wit and proposed project are utive Order 12549, Debar fication against Lobbying i is 112-10 Section 1340(a) g Appropriations Act of 20
8.	Signature of Principal In	vestigator:		
9.	Name of Authorized Org	ganizational Rep	D:	
10.	Signature of Authorized	Organizational	Rep:	
11.	Date Signed:			

Proposed Project Summary

NAME OF INSTITUTION (INCLUDE BRANCH/CAMPUS AND SCHOOL OR DIVISION)
ADDRESS (INCLUDE DEPARTMENT, BUILDING & ROOM #, CITY, STATE, ZIP)
PRINCIPAL INVESTIGATOR NAME, TITLE, & EMAIL
TRINGII AL INVESTIGATOR NAIVIL, TITLE, & LIVIAIL
PROJECT TITLE
THE PROPOSED WORK WILL SUPPORT THE RESEARCH PRIORITIES OF THE FOLLOWING NASA DIRECTORATES AND NASA FIELD CENTERS (Check all that apply to your project. Narrative proof for selected alignment(s) must be included in your proposal
narrative.):
Mission Directorate (Required): \square SMD \square STMD \square ARMD \square ESDMD \square SOMD
NASA Center (If Applicable):
PERIOD OF PERFORMANCE
08/15/2024 - 05/31/2025
ABSTRACT (DO NOT EXCEED 250 WORDS)

Prior LaSPACE Awards

(Limit this list to the last 5 years)

For each prior LaSPACE award, as a PI or a Co-I please provide the following:

1.	Project Title:					
2.	Dates:					
3.	Was a final technical report submitted?YESNO*					
	If no, explain	:				
4.	Did a proposa	al to a funding a	agency result?	NO	YES	
	If yes,	Agency:				
		Title:				
		Date:				
		Status	s:Funded	Decline	ed	_Pending
/ A d d =	additional page		١			
Huu	iuuitionai page	es as necessary.)			

LaSPACE REA Proposed Budget Form

Include this form in your proposal. Be sure to only ascribe funds to categories explicitly open to the program area to which you are applying. Following this form, include a detailed narrative explanation of all proposed costs.

Proposal Title:	
Principal Investigator:	
Institution:	

LaSPACE Funds Requested	Institutional Match Funds*
\$	\$
\$	\$
\$	\$
\$	\$
\$	\$
_1	
\$	\$
\$	\$
\$	\$
\$	\$
\$	\$
\$	\$
\$	\$
\$	\$
	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$

^{*}Must be certified on all financial billings/reports.

Student Participant List & Form Submission Confirmations

The Student Participant List must be completed, and online participant forms filled out in advance of submitting a proposal. Copy and complete the participant list and confirmation checkboxes below into your proposal.

Name	Classification	Major	Project Role
e.g. Jane Smith	Undergraduate, Junior	Electrical Engineering	Electrical Design Lead; Technical Writing Co-
			Lead

\Box Check this box to confirm that all students listed above have completed a LaSPACE student participant for Include this page in your proposal.	m.
☐ Check this box to confirm that all students listed above have completed a NASA STEM Gateway profile. Include this page in your proposal.	

LaSPACE Student Participant Form Instructions

Link to LaSPACE Student Participant Form

Please provide the following guidance to students completing the online participant form.

- The LaSPACE Student Participant Information Form must be completed in advance of submitting this application. If any section is left blank in the online form, you will be disqualified from consideration.
- Upon completion of the form, a message will appear on the screen to confirm the form was successfully submitted. Additionally, a confirmation email will be sent to the school email provided in the form. Once the email is received, it is safe to close your browser. Save the confirmation email and forward to your Principal Investigator / Project Lead. Do NOT include NOR share screenshots or copies of your demographic information. This is to protect your Personally Identifiable Information.
- The **Project PI / Lead** should be the PI who is submitting this proposal. Please provide the students with your office phone number and email address to input.
- The **LaSPACE Program** should be the program for which students are currently applying for/participating in. If working under multiple LaSPACE projects, students will submit a participant form for each separate project. For this proposal students will select GSRA.
- The Project Start Date is the first day of the project's Period of Performance (PoP). This is not your
 personal start date on the project. Confirm PoP start date in the program guidelines or ask your
 Project PI / Lead. Project Start date should be 8/15/2024 for students under this current proposal
 submission.
- The **Participating Semester(s)** is where students select their semesters of participation on the project.

NASA STEM Gateway Profile Instructions

All students funded under any National Space Grant Program must register in the NASA STEM Gateway system here: https://stemgateway.nasa.gov/public/s/login/SelfRegister. Guidance on setting up your profile will be posted to the LaSPACE website.

LaSPACE NASA Media Release Form Instructions

The LaSPACE NASA Media Release Form provides permission to LaSPACE and NASA to share your photographs in our reports, newsletters, and online channels. It must be completed in advance of submitting this application. If any section is left blank in the online form, you will be disqualified from consideration. After submitting the form, check the relevant confirmation checkbox on the Proposed Project Summary Form.

LaSPACE NASA Media Release Form

• The online form should be completed and submitted by the PI and any other named, known participants (i.e. undergraduate student researcher for a LURA / graduate student for a GSRA, etc) at the time of proposal submission. Facilitators/participants recruited later and/or featured in photos associated with the funded activities should complete their own forms before, or at the time, of Final Report submission.

- For projects that involve recruiting student participants during the active award period (i.e. Senior Design, LaACES, etc), we suggest requiring completion of this form and the student participant form on the first day of official participation by the student.
- Upon completion of the form, a message will appear on the screen to confirm the form was successfully submitted. Additionally, a confirmation email will be sent to the school email provided in the form. Save this email and have students/external participants forward to the Principal Investigator / Project Lead.
- For large-scale public events, we suggest bringing a device for folks to complete on-site releases.
- For registration-based activities, we suggest including a link to our online form in your registration materials.