

# LaSPACE

## LaSPACE Undergraduate Research Assistantship (LURA) Program

Offered by the Louisiana Space Grant Consortium



Under the authority of the  
NASA Space Grant College and Fellowship Program

Louisiana Space Grant Consortium (LaSPACE)  
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Louisiana State University, Baton Rouge, LA 70803  
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*Revised, March 2021*

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

# LURA Program Summary Page

## About the LURA Program

The LaSPACE Undergraduate Research Assistantship (LURA) Program is directed at undergraduate science and engineering students who are interested in space/aerospace science and technology. The intent of the LURA program is to supplement and enhance the undergraduate academic curriculum by providing the science/engineering student with a hands-on, mentored research experience relevant to space sciences. A LURA project will be a joint effort between a faculty researcher, who serves as mentor and project Principal Investigator, and an undergraduate research assistant. Proposals must clearly identify the Mission Directorate priority being addressed by this project.

## Program Summary

- A LURA project should support NASA's goal of strengthening the higher education pipeline in STEM fields required for the future NASA workforce. A LURA project should expose Louisiana STEM students to the full cycle of a research project from proposal writing, through research and data analysis, to budget and time management, and concluding with final technical reporting.
- Proposals must be co-written by the Faculty Mentor and undergraduate student with a clear plan for the student's research work.
- Proposals must be signed off on by the Faculty Mentor PI and the Designated Institutional Representative for Sponsored Programs at your institution.
- A student applicant cannot hold two LURA awards concurrently. Consecutive awards are allowable, **IF** the application explicitly addresses completion of tasks from the previous award, details **distinctly new objectives and tasks for the new award**, includes a draft of the previous award's final report, and has **NO** overlapping period of performance dates for the two awards.
- Awards are for \$4700 with no match requirement. The majority of the funds ( $\geq$ \$3k) are to be distributed directly to the student. It is recommended that some travel funds be budgeted for the student to attend at least one professional meeting; including, if possible, the annual LaSPACE Council Meeting Student Poster Session held in the early fall each year. No more than \$750 can be used for materials and supplies.
- The final invoices and a final technical report co-written by the Faculty Mentor & LURA student 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 template is available from the LaSPACE office.

## Proposal Submissions

- **Submit all properly executed proposals via email as fully searchable pdf documents to [laspace@lsu.edu](mailto:laspace@lsu.edu) by 11:59 pm on Friday, May 28, 2021.**
- Important Dates:
  - Proposal Release Date: Friday, March 19, 2021
  - **Proposal Due Date: Friday, May 28, 2021**
  - Anticipated Award Announcements: Late June
  - Award Period of Performance: 08/15/2021 - 08/14/2022

# LaSPACE General Guidelines

## Introduction to the 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 2018 Strategic Plan

NASA’s 2018 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 (*formerly Office of Education*)

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 [Office of STEM Engagement](#) (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 [Science Mission Directorate \(SMD\)](#) 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 [Aeronautics Research Mission Directorate \(ARMD\)](#) 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 [Space Technology Mission Directorate \(STMD\)](#) 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 [Human Exploration and Operations Mission Directorate \(HEOMD\)](#) leads human exploration in and beyond low Earth orbit by developing new transportation systems and performing scientific research to enable sustained and affordable human life outside of Earth. HEOMD also manages space communication and navigation services for the Agency and its international partners.

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](mailto:Kristen.Erickson@nasa.gov)

### The Aeronautics Research Mission Directorate (ARMD)

POC: Karen L. Rugg, Lead, Communications and Education Phone: (202) 358-2197, [karen.l.rugg@nasa.gov](mailto:karen.l.rugg@nasa.gov)

### Space Technology Mission Directorate (STMD)

POC: Damian Taylor, SBIR and STTR Mission, Directorate Liaison Phone: (202) 358-1432, [damian.taylor@nasa.gov](mailto:damian.taylor@nasa.gov)

### Human Exploration and Operations Mission Directorate (HEOMD)

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

## NASA Center Liaisons

Ames Research Center, <i>Kristina Wilmoth</i> Education Specialist Phone: (650) 604-6137 <a href="mailto:Kristina.Wilmoth@nasa.gov">Kristina.Wilmoth@nasa.gov</a>	Kennedy Space Center, <i>Jeffrey A. Kohler</i> Technology Transfer Office Phone: (321) 867-2462 <a href="mailto:Jeffrey.A.Kohler@nasa.gov">Jeffrey.A.Kohler@nasa.gov</a>
Armstrong Flight Research Center, <i>Kristina Wilmoth</i> Education Specialist Phone: (650) 604-6137 <a href="mailto:Kristina.Wilmoth@nasa.gov">Kristina.Wilmoth@nasa.gov</a>	Langley Research Center, <i>Kim Brush</i> LaRC OSTEM Integration Manager Phone: (757) 864-6454 <a href="mailto:Kimberly.M.BBrush@nasa.gov">Kimberly.M.BBrush@nasa.gov</a>
Goddard Space Flight Center, <i>James L. Harrington</i> Computer Research and Development Phone: (301) 286-4063 <a href="mailto:James.L.Harrington@nasa.gov">James.L.Harrington@nasa.gov</a>	Glenn Research Center, <i>Mark David Kankam, Ph.D.</i> University Affairs Officer Phone: (216) 433-6143 <a href="mailto:Mark.D.Kankam@nasa.gov">Mark.D.Kankam@nasa.gov</a>
Jet Propulsion Laboratory, <i>Linda Rodgers or Petra Kneissl</i> University Programs Administrators Linda Phone: (818) 354-3274 <a href="mailto:Linda.L.Rodgers@jpl.nasa.gov">Linda.L.Rodgers@jpl.nasa.gov</a> Petra Phone: (818) 201-8805 <a href="mailto:Petra.A.Kneissl-milanian@jpl.nasa.gov">Petra.A.Kneissl-milanian@jpl.nasa.gov</a>	Marshall Space Flight Center, <i>Frank Six</i> University Affairs Officer Office of Academic Affairs (HS30) Phone: (256) 961-0678 <a href="mailto:Norman.F.Six@nasa.gov">Norman.F.Six@nasa.gov</a>
Johnson Space Center, <i>Kamlesh Lulla</i> Director, University Research Collaborations and Partnership Office Phone: (281) 483-3065 <a href="mailto:Kamlesh.P.Lulla@nasa.gov">Kamlesh.P.Lulla@nasa.gov</a>	Stennis Space Center, <i>Mitch Krell, Ph.D.</i> Data Analysis Phone: (228) 688-1821 <a href="mailto:Mitch.Krell@nasa.gov">Mitch.Krell@nasa.gov</a>

## 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 Administration & Institutional Coordinators

General administration and management is the responsibility of the LaSPACE Staff headquartered at Louisiana State University (LSU). Questions about applications to any LaSPACE programs should be directed to the program management team via the general [laspace@lsu.edu](mailto: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](mailto:laspace@lsu.edu)).

LaSPACE Program Office, [laspace@lsu.edu](mailto:laspace@lsu.edu), 225-578-8697

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

T. Gregory Guzik, Director, [tgguzik@lsu.edu](mailto:tgguzik@lsu.edu) | Colleen H. Fava, Assistant Director, [colleenf@lsu.edu](mailto:colleenf@lsu.edu) | Meaghin Woolie, Program Manager, [mwooli2@lsu.edu](mailto:mwooli2@lsu.edu) | Doug Granger, Student Flight Program Manager, [dgrang2@lsu.edu](mailto:dgrang2@lsu.edu)

Additionally, all member institutions have appointed an institutional coordinator who sits on the LaSPACE Advisory Council and is available to discuss opportunities and processes related to LaSPACE programs. Contact information for all advisors is provided below. For institutions with a vacancy, contact the program manager listed above.

## LaSPACE Affiliate Institutional Coordinators

Baton Rouge Community College (BRCC)	Sandra Guzman	<a href="mailto:guzmans@mybrcc.edu">guzmans@mybrcc.edu</a>	225-216-8213
BREC / Highland Road Park Observatory (HRPO)	Christopher Kersey	<a href="mailto:observatory@brec.org">observatory@brec.org</a>	225-768-9948
Cain Center for STEM Literacy (Cain Center)	Frank Neubrandner	<a href="mailto:fneubr1@lsu.edu">fneubr1@lsu.edu</a>	225-578-4082
Delgado Community College (DCC)	Raymond Duplessis	<a href="mailto:rduple@dcc.edu">rduple@dcc.edu</a>	504-671-6419
Dillard University (Dillard)	Abdalla Darwish	<a href="mailto:adarwish@dillard.edu">adarwish@dillard.edu</a>	504-816-4840
Grambling State University (GSU)	Matthew F. Ware	<a href="mailto:waremf@gram.edu">waremf@gram.edu</a>	318-274-2391
Louisiana Arts and Science Museum (LASM)	vacant	<a href="#">vacant</a>	vacant
La Board of Elementary & Secondary Education (BESE)	Ann Wilson	<a href="mailto:Ann.wilson@la.gov">Ann.wilson@la.gov</a>	225-342-0140
Louisiana Board of Regents (BOR)	Jessica Patton	<a href="mailto:jessica.domingue@la.gov">jessica.domingue@la.gov</a>	225-342-4253
Louisiana Business and Technology Center (LBTC)	Roy Keller	<a href="mailto:rkeller@lsu.edu">rkeller@lsu.edu</a>	225-578-3985
Louisiana Public Broadcasting (LPB)	Christina Melton	<a href="mailto:cmelton@lpb.org">cmelton@lpb.org</a>	225-757-4215
Louisiana State University and A&M College (LSU)	Stephen D. Beck	<a href="mailto:sdbeck@lsu.edu">sdbeck@lsu.edu</a>	225-578-5833
Louisiana State University at Alexandria	Gerard Dumancas	<a href="mailto:g dumancas@lsua.edu">g dumancas@lsua.edu</a>	318-427-4436
Louisiana State University Agricultural Center (LSU-Ag)	Wade Baumgartner	<a href="mailto:wbaumgartner@agcenter.lsu.edu">wbaumgartner@agcenter.lsu.edu</a>	225-578-7742
Louisiana State University Health Sciences (LSUHSC)	Lynn Harrison	<a href="mailto:lharrison@lsuhsc.edu">lharrison@lsuhsc.edu</a>	318-675-4213
Louisiana State University of Shreveport (LSU-S)	Urska Cvek	<a href="mailto:urska.cvek@lsus.edu">urska.cvek@lsus.edu</a>	318-795-4266
Louisiana Tech University (LaTech)	Mary Caldorera-Moore	<a href="mailto:mcmoore@latech.edu">mcmoore@latech.edu</a>	318-257-2207
Loyola University (Loyola)	Martin McHugh	<a href="mailto:mmchugh@loyno.edu">mmchugh@loyno.edu</a>	504-865-2451
McNeese State University (McNeese)	Ning Zhang	<a href="mailto:nzhang@mcneese.edu">nzhang@mcneese.edu</a>	337-475-5873
National Center for Biomedical Research & Training (LSU-NCBRT)	Jason Krause	<a href="mailto:jkrause@ncbrt.lsu.edu">jkrause@ncbrt.lsu.edu</a>	225-578-0285
Nicholls State University (Nicholls)	Matt Marlow	<a href="mailto:matthew.marlow@nicholls.edu">matthew.marlow@nicholls.edu</a>	985-448-4576
Northshore Technical Community College (NTCC)	Chuck Crabtree	<a href="mailto:charlescrabtree@northshorecollege.edu">charlescrabtree@northshorecollege.edu</a>	985-545-1231
Northwestern State University of Louisiana (NSULA)	Anna Dugas	<a href="mailto:dugasa@nsula.edu">dugasa@nsula.edu</a>	318-357-5519
Nunez Community College (NCC)	Andreas Pashos	<a href="mailto:apashos@nunez.edu">apashos@nunez.edu</a>	504-278-6287
River Parishes Community College (RPCC)	Esperanza Zenon	<a href="mailto:ezenon@rpcc.edu">ezenon@rpcc.edu</a>	225-743-8713
SciPort Louisiana's Science Center	vacant	<a href="#">vacant</a>	vacant
Southeastern Louisiana University (SELU)	Gerard Blanchard	<a href="mailto:gerard.blanchard@selu.edu">gerard.blanchard@selu.edu</a>	985-549-2159
Southern University and A & M College (SUBR)	Michael Stubblefield	<a href="mailto:michael_stubblefield@subr.edu">michael_stubblefield@subr.edu</a>	225-771-5231
Southern University of New Orleans (SUNO)	Illya Tietzel	<a href="mailto:itietzel@suno.edu">itietzel@suno.edu</a>	504-286-5111
Tulane University (Tulane)	Mark J. Fink	<a href="mailto:fink@tulane.edu">fink@tulane.edu</a>	504-862-3568
University of Louisiana at Lafayette (ULL)	Afef Fekih	<a href="mailto:afef.fekih@louisiana.edu">afef.fekih@louisiana.edu</a>	337-482-5333
University of Louisiana at Monroe (ULM)	Ken Leppert	<a href="mailto:leppert@ulm.edu">leppert@ulm.edu</a>	318-342-1918
University of New Orleans (UNO)	Matthew Tarr	<a href="mailto:mtarr@uno.edu">mtarr@uno.edu</a>	504-280-1038
Xavier University of Louisiana (Xavier)	Ashwith K. Chilvery	<a href="mailto:achilver@xula.edu">achilver@xula.edu</a>	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 *The Newsletter*, 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.

## 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. **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.

## Eligibility

PI must be associated with a LaSPACE affiliated institution. PI must be a research or tenure-track faculty member or designated institutional representative recognized by LaSPACE. All NASA funded participants must be U.S. citizens. Additional, or altered, restrictions may apply to specific programs.



## Concurrent, Overlapping, and Consecutive Awards

PIs may hold more than one LaSPACE Award concurrently with some restrictions. First, no student may be funded simultaneously via multiple awards in the scholarship/fellowship programs (GSRA, Fellows, LURA, MRS, & HIS programs). Consecutive, non-overlapping awards in these program areas may be issued to exceptional students in the midst of extended research. Proposals for additional year(s) of funding may be submitted if 1) the previous period of performance has recently passed or is 60 days or less from completion, 2) must explicitly reference the completion of proposed tasks from the current/previous award within the new proposal, 3) must include a final report, or preliminary final report if still in progress, in an appendix, and 4) must clearly state the objectives and goals for the new proposal differentiating said goals from the prior work.

## Budgeting

Capital Equipment purchases and Foreign Travel are, in general, not allowable costs.

## 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 12 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 from our proposed start date, unless otherwise indicated.* No cost extensions (NCEs) 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 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).

# LaSPACE Undergraduate Research Assistantship (LURA) Program

## Application Guidelines

### About the LURA Program

The LaSPACE Undergraduate Research Assistantship (LURA) Program is designed to support outstanding undergraduate students engaged in faculty-mentored, NASA-related, aerospace research on a LaSPACE affiliate campus and, thereby, retain such students while providing valuable hands-on training, as well as supporting the research infrastructure in Louisiana.

### Background and Objectives

The State of Louisiana's prime goal is to develop a well-trained, technical workforce capable of moving the state forward in R & D, attracting high tech industries, and promoting economic development. This is precisely what NASA desires and what LaSPACE is working to achieve. The core focus of the LaSPACE program continues to be student involvement in genuine scientific research and engineering projects.

The purposes of the LURA program are: to recruit superior undergraduate students into aerospace and aeronautical related fields of study; to strengthen the educational base in Louisiana by increasing the number of students training for careers in space-related science, engineering, and mathematics; to enhance the research capability and infrastructure in Louisiana through the support of outstanding undergraduates in mentored research; and, to develop an appreciation for space and aerospace related careers for Louisiana students. 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. **All proposers are encouraged to help recruit diverse participants to their proposed projects.**

### Program Description

The LaSPACE Undergraduate Research Assistantship (LURA) Program is directed at undergraduate science and engineering students who are interested in space/aerospace science and technology. The intent of the LURA program is to supplement and enhance the undergraduate academic curriculum by providing the science/engineering student with hands-on, mentored research experience relevant to space sciences. A LURA project will be a joint effort between a faculty researcher, who serves as mentor and project Principal Investigator, and an undergraduate research assistant. This PI/student team will usually work on the PI's existing space related research but may develop a new Aerospace-related project.

The LURA award provides for student support for the research assistant, who will be designated as a LaSPACE Undergraduate Research Assistant. Funding for supplies and travel to present research results is also available. Supplies will be limited to \$750 per award. LURA funding is not intended to pay for the research project.

A LURA award is set at \$4.7 k per student for a 12 month period and is used for a supplemental student stipend plus travel for a student research presentation, with a minimum amount available for research supplies. A joint application is submitted by both the student and the faculty mentor. Student applicants must coordinate their effort with a faculty mentor and be able to devote 10-20 hours per week to the project. Faculty mentors must 1) be affiliated with a LaSPACE campus, 2) be engaged in NASA Mission Directorate related aerospace research or education, and 3) serve as the student faculty mentor. Applications are judged by the relevance of the research project to the NASA mission, the student's future career plans, scholastic accomplishment, science experience, leadership, and intellectual ability as well as the faculty mentor plan for student academic development and opportunities for student presentations.

This joint project, with a team consisting of the faculty mentor PI and the LaSPACE Undergraduate Research Assistant, will require an application process that is dual in nature. First, the faculty PI and the proposed research project must meet LaSPACE consortium research project criteria. Simultaneously, the student researcher must qualify as a LaSPACE Undergraduate Research Assistant. This dual application process may seem cumbersome at first, but actually is intended to allow the faculty PI more freedom to select a research assistant. This approach has been adopted after reviewing several similar programs sponsored by other state space grants. Those programs utilize two separate competitions, one to select the students and one to accept the faculty mentors, and then coordinate the "match-making" of student-mentors, campuses, research interests, etc. Some programs in some states have as many as 200 student applicants, the vast majority of whom cannot be accommodated. Our approach to this match-making is to cut out the "middle man" and let the faculty and students form their own teams.

## Eligibility

To be eligible to apply for a LaSPACE LURA award, an applicant must meet each of the following criteria:

### Undergraduate Research Assistant Requirements:

1. She/he must be a U.S. Citizen.
2. At the time of application, an applicant must currently be enrolled at a LaSPACE College/University. Alternatively, the applicant can be in his/her senior year of high school, or a recent high school graduate, and must have applied for admission to a LaSPACE member college or university.
3. The current or prospective field of study of an applicant must be in a STEM discipline, with a space- or aerospace-related program. NASA Workforce Development goals imply that students must express interest in an aerospace related career.
4. An applicant must pursue his/her undergraduate degree on a full time basis.
5. The applicant must coordinate with a faculty/mentor who will file a joint application with the student.
6. The student applicant must be able to devote 10-20 hours per week to the project.
7. The proposal must include a project plan written with the PI that details all the tasks and deliverables to be completed by the student, and a final report, also jointly written, must be produced with results that match the submitted project plan.

*NOTE: Occasionally, a student originally included in the project proposal cannot participate. It is permissible for the PI to replace the student, but this replacement must be requested in writing and approved by the LaSPACE office (including LaSPACE approval of the new student's application).*

### Faculty Mentor/Principal Investigator

1. The faculty member must be affiliated with a LaSPACE campus.

2. The faculty member must serve as mentor to the student researcher and be contractually responsible for the award.
3. The faculty/mentor must be engaged in space related research or education, which relates to one of the NASA Mission Directorates as discussed earlier.
4. The proposal must include a project plan written with the student that details all the tasks and deliverables to be completed by the student, and a final report, also jointly written, must be produced with results that match the submitted project plan.

*NOTE: A change in PI is possible if justified in a written request and approved by LaSPACE.*

## **LURA Award Terms and Conditions**

### **Award Funds**

A LURA award is set at \$4.7k per student with no match requirement. The majority of the funds ( $\geq$ \$3k) are to be distributed directly to the student. It is recommended that some travel funds be budgeted for the student to attend at least one professional meeting; including, if possible, the annual LaSPACE Council Meeting Student Poster Session held in the fall each year. No more than \$750 can be used for materials and supplies.

Award funds will be provided to the LaSPACE College or University in which a winning PI/student candidate team is enrolled, via cost-reimbursable subcontract. The campus will assume responsibility for administering and distributing these monies according to standard procedures and consistent with all federal and state rules and guidelines. It is understood by all LaSPACE member campuses that these funds are to be used for support of the student award recipient and for supplies and/or travel.

### **Duration**

A LURA award is usually for a 12-month period. Awards for fewer than 12 months are also possible. In order to complete goals, and with prior written justification, a No Cost Extension may be granted.

### **Number of Awards**

LaSPACE intends to award 5 to 8 LURA teams each year.

### **Equal Opportunity / Diversity**

As with all LaSPACE programs, applicants from groups under-represented in Math, Science, and Engineering are especially encouraged. African Americans, Native Americans, Mexican Americans, Puerto Ricans, Alaskan Natives, Native Pacific Islanders, Hispanics, women, and persons with disabilities are strongly urged to apply. No applicant shall be denied consideration or appointment to a LaSPACE Undergraduate Research Assistantship on the grounds of race, creed, color, age, gender, or disability. LaSPACE also seeks to recruit proposers from a variety of institutions and disciplines.

### **Student Support**

The majority of the award is expected to be student support (\$3000 minimum).

### **Supplies**

The materials and supplies budget category is limited to \$750.

### **Travel**

The travel budget category is restricted to travel for the students. No foreign travel is allowed.

## **Equipment**

The use of LaSPACE LURA grant funds for the purchase of equipment is prohibited.

## **Indirect Costs**

F & A (Indirect) charges are waived for LURA awards as per the NASA grant. Indirect/overhead (F & A) and fringe charges are prohibited on these funds. There is no cost-share for this award and no way to charge unrecovered indirect.

## **Re-Application to the Program**

After an award term has expired, applicants may apply for another supplement in order to continue promising research and progress toward the degree. Reapplication is contingent on the availability of funds, satisfactory progress in the research work, submission and approval of the Final Technical Report for previous awards, and the continued fulfillment of the eligibility criteria. No re-application will be considered until the previous award's final/preliminary technical report and final financial report are submitted and approved. There can be no overlap of the periods of performance on consecutive awards.

## **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.

# LURA Proposal Requirements & Format

LURA proposals should be submitted as fully searchable pdf documents via email to [laspace@lsu.edu](mailto:laspace@lsu.edu). A LURA proposal **must** include the following completed sections in the order presented:

- LaSPACE Cover Page
- Proposed Project Summary Form
- Prior LaSPACE Awards Form
- A. LURA Student Application Form written by the Student Researcher/Applicant (not to exceed 7 pages including application cover sheet)
- B. Proposal Narrative written by the Faculty Mentor/PI (not to exceed 5 pages)
  1. Overview of the Faculty Mentor's research
  2. Explicit statements of alignment with a NASA Research Priority and the NASA MD, Center, and/or Program(s) under which this alignment falls
  3. Proposed work plan for the student, including a timeline with major milestones
  4. Benefits to the Student (technical & scientific skills)
  5. Professional Development Opportunities (lab meetings, authoring papers, poster presentations, etc.)
  6. Benefit to the Research Project (how will the student researcher help advance your project)
- C. Letter of Recommendation from the Faculty Mentor/PI for proposed student
- D. Budget (LaSPACE Budget Form followed by narrative explanation of all costs)
- E. Student Participant List (online form completion certification)
- F. NASA Media Release Form (completed by PI and all identified student participants)

# LURA Evaluation

Each proposal will be evaluated using the following evaluation form.

## LURA Evaluation Form

<b>Institution</b>	
<b>PI Name</b>	
<b>Proposal Title</b>	
<b>Funding Recommendation</b>	

<b>Proposal Formatting and Required Contents</b>
All sections are present and in the right order

<b>Relevance to &amp; Alignment with NASA</b>
Clearly aligned to a NASA Mission Directorate and priorities

<b>Overall Quality of Proposal</b>
Clarity & quality of the proposed work and key personnel

<b>Evidence of Likely Completion of the Project</b>
Management and task plan is detailed and specific; evidence of past success

<b>Contribution to Diversity (not just student and faculty participation, but institutions &amp; disciplines)</b>
LaSPACE Program Portfolio aims to support projects around the state and not only on the same few campuses focused on the same handful of disciplines.

<b>Budget Appropriateness</b>
Appropriate to the work and to the goals of this program. Sufficient narrative details on costs.

<b>Additional Comments</b>
Additional Comments



# Attachments

## Required Proposal Forms

### Required Forms for Proposal

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

- Cover Sheet
- Proposed Project Summary
- Prior LaSPACE Awards
- Proposal Budget Form
- Student Participant List (online form completion certification)
- NASA Media Release Form (completed by PI and all identified student participants)

## LaSPACE LURA Program Proposal Cover Sheet

1. Title of Proposed Project: \_\_\_\_\_  
\_\_\_\_\_

2. Principal Investigator: \_\_\_\_\_  
(Name) (Highest Degree Earned) (Citizenship)  
\_\_\_\_\_  
(Department)

3. Institution of Higher Education: \_\_\_\_\_

4. Address: \_\_\_\_\_  
(Street Address/P.O. Box Number)  
\_\_\_\_\_  
(City, State) (Zip Code)

5. Telephone: \_\_\_\_\_ FAX: \_\_\_\_\_

E-mail: \_\_\_\_\_

6. Date of Submission: \_\_\_\_\_

7. Total Funds Requested: \$ \_\_\_\_\_ Institutional Match: \$ \_\_\_\_\_

\*\*\*\*\*

**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, BUILDING & ROOM #, CITY, STATE, ZIP)
PRINCIPAL INVESTIGATOR NAME, TITLE, & EMAIL
STUDENT RESEARCHER NAME & EMAIL
PROJECT TITLE
PROPOSED PROJECT START DATE 08/15/2021 – 08/14/2022
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? \_\_\_\_\_YES \_\_\_\_\_NO\*

If no, explain:

4. Did a proposal to a funding agency result? \_\_\_\_\_NO \_\_\_\_\_YES

If yes, Agency:

Title:

Date:

Status: \_\_\_\_\_Funded \_\_\_\_\_Declined \_\_\_\_\_Pending

(Add additional pages as necessary.)

## LaSPACE 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*
<b>A. Direct Labor</b>		
1. Researchers	\$	\$
2. Graduate Student(s)	\$	\$
3. Undergraduate Student(s)	\$	\$
4. Fringe Benefits	\$	\$
5. Subtotal A	\$	\$
<b>B. Supportive Expenses</b>		
1. Travel	\$	\$
2. Supplies & Materials	\$	\$
3. Communications & Equipment	\$	\$
4. Other Direct Costs (Identify)	\$	\$
5. Subcontracts	\$	\$
6. Subtotal B	\$	\$
7. F&A (Indirect)	\$	\$
<b>C. Total Project Cost</b>		
	\$	\$

*\*Must be certified on all financial billings/reports.*

## Student Participant List

Student Participant List must be completed and online demo forms filled out in advance of submitting this application.

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

[Link to Undergraduate Student Participation Form](#)

[Link to Graduate Student Participation Form](#)

Check this box to confirm that all students listed above have completed an online participant form. Include this page in your proposal.

Online Student Participant Form Guidance (applicable to all submissions):

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

- The online form should be completed and submitted by all student participants.
- Upon completion of the form, students will see an option to “print or get PDF of answers.” It is recommended that students save a copy of their answers to their local device for their own records.
- The **Faculty Advisor/ Mentor (question 12)** should be the PI who is submitting this proposal. Please provide the students with your office phone number and email address to input.
- The **Program (question 15)** should be the program for which students are currently applying/participating in. If working under multiple LaSPACE projects, students will submit a demographic form for each separate project.
- The **Project Start Date (question 16)** should be 8/15/2021 for students under this current proposal submission.
- The **Participating Semester(s)** should be the “Fall 2021, Spring 2022, Summer 2022” option.



I, [Click or tap here to enter text.](#), hereby give permission to be interviewed, photographed, and/or videotaped.

I understand and agree that the text, photographs, and/or videotapes thereof containing my name, likeness, and voice, including transcripts thereof, may be used in the production of instructional, promotional materials, and for other purposes that NASA deems appropriate; and such materials may be distributed to the public and displayed publicly one or more times and in different formats, including but not limited to, websites, cablecasting, broadcasting, and other forms of transmission to the public.

I also understand that this permission to use the text, photographs, videotapes, and name in such material is not limited in time and that I will not receive any compensation for granting this permission.

I understand that NASA has no obligation to use my name, likeness, or voice in the materials it produces, but if NASA so decides to use them, I acknowledge that it may edit such materials. I hereby waive the right to inspect or approve any such use in advance or following distribution or display.

I hereby unconditionally release NASA and its representatives from any and all claims and demands arising out of the activities authorized under the terms of this agreement.

By signing below, I represent that I am of legal age, have full legal capacity, and agree that I will not revoke or deny this agreement at any time.

I have read the foregoing and fully understand its contents.

Accepted by:

Signature: [Click or tap here to enter text.](#) Date: [Click or tap here to enter text.](#)

Address: [Click or tap here to enter text.](#)

Cell Phone: [Click or tap here to enter text.](#)

Email Address: [Click or tap here to enter text.](#)

Name and Location of Event: Media related to a NASA Space Grant / NASA EPSCoR 2021 Project

*Note: This release pertains to my likeness captured by LaSPACE / LA NASA EPSCoR program staff and/or funded participants, as well as media I submit to the LaSPACE Management office documenting experiences related to this Project. This release is valid for all documentation submitted or released for the duration of the project. This waiver gives LaSPACE/ LaNASA EPSCoR team, LSU, the LA BoR, & NASA permission to share my likeness.*





The updated LURA application form is included after this page. It must be completed and signed by the student and included in the complete proposal to LaSPACE.

# LaSPACE Undergraduate Research Assistantship (LURA) Application

Name: \_\_\_\_\_

University: \_\_\_\_\_

Current Classification (circle one):    Freshman    Sophomore    Junior    Senior

Major(s)/Minor(s): \_\_\_\_\_

Current G.P.A.: \_\_\_\_\_    SAT or ACT Scores: \_\_\_\_\_

Anticipated Graduation (Month/Year): \_\_\_\_\_

Will you or your siblings be the first in your family to graduate from college?     Yes     No

Faculty Mentor: \_\_\_\_\_    Department: \_\_\_\_\_

Advisor Phone: \_\_\_\_\_    Advisor E-mail: \_\_\_\_\_

Student Applicant Signature: \_\_\_\_\_    Date: \_\_\_\_\_

*Insert Last Name at the top of All Pages*

List in REVERSE chronological order colleges/universities and the last high school attended starting with current institution.

Institution	City	State	Dates Attended	Degree Earned Or expected	GPA/Base /
_____	_____	_____	_____	_____	____/____
_____	_____	_____	_____	_____	____/____
_____	_____	_____	_____	_____	____/____
_____	_____	_____	_____	_____	____/____

**Use up to 6 pages to complete the following sections** (*Insert Last Name at the top of All Pages*)

1. List scholarships, academic honors, student leadership roles, honorary societies, awards, and any other recognition relevant to your application (*Include any scholarship or office of any kind held at the time of the submission of this application*).
2. List any work experiences, research activities, or outside interests relevant to your field of study.
3. In a concise statement, summarize the objectives of your educational program and your long-range professional goals and how participation in this LURA program and this research project will help you achieve your goals (Provide sufficient information for evaluation by reviewers).
4. Discuss the NASA/Space/Aerospace relevance of the research project and its relationship to your academic/professional goals. Be explicit in the explaining how the work you will perform under this LURA supports NASA Research, and how your future plans support the goals and priorities of NASA.
5. Provide a summary of the project work plan detailed by the PI in the proposal, delineate the specific work you will do, capabilities & skills you will acquire, and list all expected deliverables or outcomes (including planned presentations, if known).