LaSPACE
Senior Design Project Support
(Senior Design) 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)
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

Revised, April 2019
All previous versions of this program’s guidelines are null and void.
About the Senior Design Program
The Senior Design Project Support Program is meant to offer supplemental funding in support of high-level student-led research and design projects. Projects must show clear relevance to NASA’s mission and ongoing research at one or more of the NASA centers/under the umbrella of one or more of the four mission directorates. This funding source is meant to supplement the cost of materials and supplies and/or travel for competitions related to the student project.

Program Summary
• Proposals must be signed off on by the Faculty PI and the Designated Institutional Representative for Sponsored Programs at your institution.
• Award funds can be requested up to $4000; no strict cost-match is required, but some institutional investment will impact our evaluation.
• Please include student demographic forms, if your student participants have already been identified. If the team members are not all selected at the time of proposing, please be sure to send the forms in as soon as the students have all been identified.
• All invoices and a final technical report 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. A new 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 by 11:59 pm on Wednesday, June 19, 2019.
• Important Dates:
  o Proposal Release Date: Wednesday, April 10, 2019
  o Proposal Due Date: Wednesday, June 19, 2019
  o Anticipated Award Announcements: July 2019
  o Award Period of Performance: 08/01/2019-05/31/2020 (due to the expiration of our current award and pending issuance of a new cycle; we are limiting PoPs to 10 months; no NCEs will be granted)
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) 358-0039, Kristen.Erickson@nasa.gov

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

**Space Technology Mission Directorate (STMD)**
POC: Joseph Grant Education Lead
Phone: (202) 358-0070, Joseph.Grant-1@nasa.gov

**Human Exploration and Operations Mission Directorate (HEOMD)**
POC: Bradley Carpenter
Phone: (202) 358-0826, BCarpenter@nasa.gov

**NASA Center Liaisons**

<table>
<thead>
<tr>
<th>Ames Research Center, Danielle Carmichael</th>
<th>Kennedy Space Center, Michael Lester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Space Grant &amp; EPSCoR Program Coordinator, Office of Education and Public Outreach Phone: 650-604-6958 <a href="mailto:Danielle.n.Carmichael@nasa.gov">Danielle.n.Carmichael@nasa.gov</a></td>
<td>NASA Internships, Fellowships and Scholarships (NIFS) Lead Phone: (321) 867-3671 <a href="mailto:gregory.m.ester@nasa.gov">gregory.m.ester@nasa.gov</a></td>
</tr>
<tr>
<td>Armstrong Flight Research Center, Dave Berger</td>
<td>Langley Research Center, Gamaliel (Dan) Cherry</td>
</tr>
<tr>
<td>MIRO Project Manager Phone: (661) 276-6110 <a href="mailto:Dave.e.Berger@nasa.gov">Dave.e.Berger@nasa.gov</a></td>
<td>University Affairs Officer Phone: (757) 864-6113 <a href="mailto:Gamaliel.R.Cherry@nasa.gov">Gamaliel.R.Cherry@nasa.gov</a></td>
</tr>
<tr>
<td>Goddard Space Flight Center Mabelene Burrell, Education Specialist Phone: (301) 286-1122 <a href="mailto:Mabelene.S.Burrell@nasa.gov">Mabelene.S.Burrell@nasa.gov</a></td>
<td>Glenn Research Center, Mark David Kankam, Ph.D. University Affairs Officer Dir. of NASA Space &amp; Aeronautics Academy at Glenn, Phone: (216) 433-6143 <a href="mailto:Mark.D.Kankam@nasa.gov">Mark.D.Kankam@nasa.gov</a></td>
</tr>
</tbody>
</table>
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 Education, 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 Education Lines of Business (LOB) 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 2015 Strategic Plan (posted on our website) describes a comprehensive program of Research, Education, and Service via 5 strategic goals, each in line with one or more NASA OE LOB, to (1) Foster aerospace research and education (LOB 2&3), (2) Encourage aerospace industries within Louisiana (LOB 1), (3) Contribute to pre-college STEM education excellence (LOB 4), (4) Engage and educate the general public (LOB 3&4), and (5) Maintain an effective consortium of institutions involved in LaSPACE (LOB 1).

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 Director or Program Manager. Unless otherwise directed, all proposals should be submitted via email to the program email address (laspace@lsu.edu). Contact info for the program management team is included below.

LaSPACE Program Office, laspace@lsu.edu
LSU Department of Physics & Astronomy
364 Nicholson Hall, Baton Rouge, LA 70803
Phone: 225.578.8697; laspace@lsu.edu
T. Gregory Guzik, Director, guzik@phunds.phys.lsu.edu
Colleen H. Fava, Assistant Director, colleenf@lsu.edu
Meaghan Woolie, Program Manager, mwooli2@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

<table>
<thead>
<tr>
<th>Institution</th>
<th>Coordinator</th>
<th>Email</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baton Rouge Community College (BRCC)</td>
<td>Asoka Sekharan</td>
<td><a href="mailto:sekharan@mybrcc.edu">sekharan@mybrcc.edu</a></td>
<td>225-216-8118</td>
</tr>
<tr>
<td>Delgado Community College (DCC)</td>
<td>Raymond Duplessis</td>
<td><a href="mailto:rduple@dcc.edu">rduple@dcc.edu</a></td>
<td>504-671-6419</td>
</tr>
<tr>
<td>Dillard University (Dillard)</td>
<td>Abdalla Darwish</td>
<td><a href="mailto:adarwish@dillard.edu">adarwish@dillard.edu</a></td>
<td>504-816-4840</td>
</tr>
<tr>
<td>BREC / Highland Road Park Observatory (HRPO)</td>
<td>Christopher Kersey</td>
<td><a href="mailto:observatory@brec.org">observatory@brec.org</a></td>
<td>225-768-9948</td>
</tr>
<tr>
<td>Cain Center for STEM Literacy (Cain Center)</td>
<td>Brenda Nixon</td>
<td><a href="mailto:bnixon@lsu.edu">bnixon@lsu.edu</a></td>
<td>225-578-4082</td>
</tr>
<tr>
<td>Grambling State University (GSU)</td>
<td>Matthew F. Ware</td>
<td><a href="mailto:waremf@gram.edu">waremf@gram.edu</a></td>
<td>318-274-2391</td>
</tr>
<tr>
<td>Jacobs Technology, Inc. at Michoud (Jacobs)</td>
<td>vacant</td>
<td>vacant</td>
<td></td>
</tr>
<tr>
<td>Louisiana Arts and Science Museum (LASM)</td>
<td>vacant</td>
<td>vacant</td>
<td></td>
</tr>
<tr>
<td>La Board of Elementary &amp; Secondary Education (BESE)</td>
<td>Ann Wilson</td>
<td><a href="mailto:Ann.wilson@la.gov">Ann.wilson@la.gov</a></td>
<td>225-342-0140</td>
</tr>
<tr>
<td>Louisiana Board of Regents (BOR)</td>
<td>Jessica Patton</td>
<td><a href="mailto:jessica.domingue@la.gov">jessica.domingue@la.gov</a></td>
<td>225-342-4253</td>
</tr>
<tr>
<td>Louisiana Business and Technology Center (LBTC)</td>
<td>Roy Keller</td>
<td><a href="mailto:rkeller@lsu.edu">rkeller@lsu.edu</a></td>
<td>225-578-3985</td>
</tr>
<tr>
<td>Louisiana State University and A&amp;M College (LSU)</td>
<td>Stephen D. Beck</td>
<td><a href="mailto:sbeck@lsu.edu">sbeck@lsu.edu</a></td>
<td>225-578-5833</td>
</tr>
<tr>
<td>Louisiana State University Agricultural Center (LSU-A)</td>
<td>Wade Baumgartner</td>
<td><a href="mailto:wbaumgartner@agcenter.lsu.edu">wbaumgartner@agcenter.lsu.edu</a></td>
<td>225-578-7742</td>
</tr>
<tr>
<td>Louisiana State University Health Sciences (LSUHSC)</td>
<td>Lynn Harrison</td>
<td><a href="mailto:lclary@lsuhsc.edu">lclary@lsuhsc.edu</a></td>
<td>318-675-4213</td>
</tr>
<tr>
<td>Louisiana State University of Shreveport (LSU-S)</td>
<td>Urska Cvek</td>
<td><a href="mailto:urska.cvek@lsus.edu">urska.cvek@lsus.edu</a></td>
<td>318-795-4266</td>
</tr>
<tr>
<td>Louisiana Tech University (LaTech)</td>
<td>Mary Caldorera-Moore</td>
<td><a href="mailto:mcmoore@latech.edu">mcmoore@latech.edu</a></td>
<td>318-257-2207</td>
</tr>
<tr>
<td>Loyola University (Loyola)</td>
<td>Martin McHugh</td>
<td><a href="mailto:mmchugh@loyno.edu">mmchugh@loyno.edu</a></td>
<td>504-865-2451</td>
</tr>
<tr>
<td>McNeese State University (McNeese)</td>
<td>Ning Zhang</td>
<td><a href="mailto:nzhang@mcmeneese.edu">nzhang@mcmeneese.edu</a></td>
<td>337-475-5873</td>
</tr>
<tr>
<td>Institution</td>
<td>Contact Name</td>
<td>Email</td>
<td>Phone</td>
</tr>
<tr>
<td>------------------------------------------------------------</td>
<td>-------------------</td>
<td>---------------------------</td>
<td>----------------</td>
</tr>
<tr>
<td>Nicholls State University (Nicholls)</td>
<td>Matt Marlow</td>
<td><a href="mailto:matthew.marlow@nicholls.edu">matthew.marlow@nicholls.edu</a></td>
<td>985-448-4576</td>
</tr>
<tr>
<td>Northshore Technical Community College (NTTC)</td>
<td>Chuck Crabtree</td>
<td><a href="mailto:charlescrabtree@northshorecollege.edu">charlescrabtree@northshorecollege.edu</a></td>
<td>985-545-1231</td>
</tr>
<tr>
<td>Northwestern State University of Louisiana (NWSU)</td>
<td>Anna Dugas</td>
<td><a href="mailto:dugasa@nsula.edu">dugasa@nsula.edu</a></td>
<td>318-357-5519</td>
</tr>
<tr>
<td>River Parishes Community College (RPCC)</td>
<td>Esperanza Zenon</td>
<td><a href="mailto:ezenon@rpcc.edu">ezenon@rpcc.edu</a></td>
<td>225-743-8713</td>
</tr>
<tr>
<td>SciPort Louisiana’s Science Center (SciPort)</td>
<td>vacant</td>
<td>vacant</td>
<td>vacant</td>
</tr>
<tr>
<td>Southeastern Louisiana University (SELU)</td>
<td>Gerard Blanchard</td>
<td><a href="mailto:gerard.blanchard@selu.edu">gerard.blanchard@selu.edu</a></td>
<td>985-549-2159</td>
</tr>
<tr>
<td>Southern University and A &amp; M College (SUBR)</td>
<td>Diola Bagayoko</td>
<td><a href="mailto:bagayoko@aol.com">bagayoko@aol.com</a></td>
<td>225-771-2730</td>
</tr>
<tr>
<td>Southern University of New Orleans (SUNO)</td>
<td>Illya Tietzel</td>
<td><a href="mailto:itietzel@suno.edu">itietzel@suno.edu</a></td>
<td>504-286-5111</td>
</tr>
<tr>
<td>Tulane University (Tulane)</td>
<td>Mark J. Fink</td>
<td><a href="mailto:fink@tulane.edu">fink@tulane.edu</a></td>
<td>504-862-3568</td>
</tr>
<tr>
<td>University of Louisiana at Lafayette (ULL)</td>
<td>Aef Fekih</td>
<td><a href="mailto:aef.fekih@louisiana.edu">aef.fekih@louisiana.edu</a></td>
<td>337-482-5333</td>
</tr>
<tr>
<td>University of Louisiana at Monroe (ULM)</td>
<td>vacant</td>
<td>vacant</td>
<td>vacant</td>
</tr>
<tr>
<td>University of New Orleans (UNO)</td>
<td>Matthew Tarr</td>
<td><a href="mailto:mtarr@uno.edu">mtarr@uno.edu</a></td>
<td>504-280-1038</td>
</tr>
<tr>
<td>Xavier University of Louisiana (Xavier)</td>
<td>Ashwith K. Chilvery</td>
<td><a href="mailto:achilver@xula.edu">achilver@xula.edu</a></td>
<td>504-520-5149</td>
</tr>
</tbody>
</table>
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 Spaceporter 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 past 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. **Note:** For the 2019-2020 Program Year, all of our direct student award programs (GSRA, LURA, & HIS programs) will be issued a start date of 08/01/2019, which will overlap with the final month of the current awards. We are waiving the non-concurrent awards requirement for that month only and for this cycle only, but the proposals must still adhere to clearly differentiated project deliverables AND may not bill twice for the same work.

Budgeting
Capital Equipment purchases, Tuition, 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 and include demographics for each (students, post-docs, faculty, and staff). **Note:** For the 2019-2020 Program Year, all of our direct student award programs (GSRA, LURA, & HIS programs) and higher education programs (LaACES / Senior Design) will be issued a period of performance of 10 months, instead of 12, due to the pending expiration of our Parent Grant and the expectation that we will be issued a new multiyear award in 2020.
Senior Design Project Support Program

Application Guidelines

About the Senior Design Program
The Senior Design Project Support Program is meant to offer supplemental funding in support of high-level student-led research and design projects. Projects must show clear relevance to NASA’s mission and ongoing research at one or more of the NASA centers/under the umbrella of one or more of the four mission directorates. This funding source is meant to supplement the cost of materials and supplies and/or travel for competitions related to the student project.

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.

PI Eligibility
Proposals to the Senior Design RFP may be submitted only by qualified faculty members at a LaSPACE affiliate academic institution. This person becomes the project’s Principal Investigator (PI) and is responsible for administering the funds, monitoring the student teams as they develop their projects, and managing the team’s reporting requirements to LaSPACE.

Award Funds
Senior Design awards are capped at $4000. The proposal may include costs for materials, supplies, and support for constructing/testing student products, and may include travel costs if a competition is associated with the final deliverable. A strict cost-share is not required, but some institutional investment will be reviewed favorably. The Senior Design Project Support Program is meant to supplement the cost of developing and building a final product as part of a senior design course.

Final Deliverables
At the end of the project, two final reports are required: the Final Technical Report and the Final Financial Report (Last invoice marked “final”). These reports are due within 30 days of the subcontract expiration date. The Final Technical Report will be a multi-page write-up that is suitable for transmission to NASA and BOR. This report should describe the activities undertaken, the participants, and your assessment, as Principal Investigator(s), of the success of the venture, the impact that it had (or will have), any follow-on proposals in preparation/submitted and any further plans for a continuation of this or similar projects. Photographs of and testimonials from student participants should be incorporated. Updated student demographic forms for all students must be included. This report shall be submitted to LaSPACE office (laspace@lsu.edu) via email.
Senior Design Proposal Requirements & Format

Senior Design proposals should be submitted as fully searchable pdf documents via email to laspace@lsu.edu. Proposals must include the following completed sections in the order presented:

- LaSPACE Cover Page
- Proposed Project Summary Form
- Prior LaSPACE Awards Form (most recent 5 years)
- Proposal Narrative (not to exceed 5 pages)
  - Introduction: State the problem to be addressed
  - Background research summary
  - Implementation Methodology with Timetable (The methodology to be employed in the project should be succinctly described. A concise timetable, preferably in a tabular form, should be provided. Key steps or milestones toward the successful completion of the project should be shown in this table. Background information should be provided as needed).
  - Explicit alignment with research goals or priorities for any of NASA’s Mission Directorates or Centers.
  - Project Team: List student team members (name, major, project role, email address)
  - Anticipated outcomes for student learning and development, including professional development activities such as poster presentations, written reports, competitions, etc.
  - Evaluation procedure/mechanism
- Budget (LaSPACE Budget Form followed by narrative explanation of all costs). Note: It is hoped that for a student team award of this type, your institution will be willing to forego some or all of the indirect charges. Waived indirect may (should) be used as institutional matching funds.
- Principal Investigator Short CV (1-2 pages)
- Student Forms (include student demographic forms for each known member of the team).
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 Demographic Form (to be completed for proposed projects where the participating student(s) have already been identified; an updated version should be submitted with the final report AND upon request by LaSPACE staff).
LaSPACE Senior Design 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: ____________________________________________________________________

Revised 06/2015
**Proposed Project Summary**

<table>
<thead>
<tr>
<th>NAME OF INSTITUTION (INCLUDE BRANCH/CAMPUS AND SCHOOL OR DIVISION)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ADDRESS (INCLUDE DEPARTMENT)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PRINCIPAL INVESTIGATOR</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PROJECT TITLE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PROPOSED PROJECT START DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>08/01/2019 – 05/31/2020</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ABSTRACT (DO NOT EXCEED 250 WORDS)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>
Prior LaSPACE Awards
(most recent 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: _____________________________________________________________

<table>
<thead>
<tr>
<th></th>
<th>LaSPACE Funds Requested</th>
<th>Institutional Match Funds*</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Direct Labor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Researchers</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>2. Graduate Student(s)</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>3. Undergraduate Student(s)</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>4. Fringe Benefits</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>5. Subtotal A</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>B. Supportive Expenses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Travel</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>2. Supplies &amp; Materials</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>3. Communications &amp; Equipment</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>4. Other Direct Costs (Identify)</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>5. Subcontracts</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>6. Subtotal B</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>7. F&amp;A (Indirect)</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>C. Total Project Cost</td>
<td>$</td>
<td>$</td>
</tr>
</tbody>
</table>

*Must be certified on all financial billings/reports. Revised 04/2018
Student Information Form

(The following is the information we must collect for all students participating in a LaSPACE SG or NASA EPSCoR program.)

Date Completed/Submitted to LaSPACE: __________________________

Name: ____________________________ Date of Birth ______________

Address: ______________________________________________________________________________

Cell Phone: __________________________ Primary e-mail: ____________________________

Secondary Telephone: __________________ Secondary e-mail: __________________________

University: __________________________ Faculty advisor/mentor: ______________________

Advisor Phone: __________________ Advisor E-mail: ________________________________

Program (circle one): GSRA  LURA  Scholars  Senior Design  Intern  LaACES  HASP  REA  RAP
RockOn  SAR  TAP  Other (please explain): ____________________________

U.S. Citizen: _____ Yes _____ No  Gender: _____ M _____ F  Hispanic/Latino: _____ Yes _____ No

Race: ______________________________________________________________________________
(SELECT ONE: African-American/Black; Asian; American Indian/Alaskan Native; Native Hawaiian; Pacific Islander; White)

U.S. Military Service? _____ Yes _____ No

Do you have a disability recognized under the American Disabilities Act? _____ Yes _____ No

If yes, please list disability (write n/a, if you do not want to disclose): ____________________________

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

Undergraduate Student: _____ Yes _____ No

Year in School: ___________ Major: ___________________ Anticipated Graduation (mo./yr.): ___________

(freshman/sophomore/junior/senior)

What do you intend to do after you graduate?

______________________________________________________________________________________

Graduate Student: _____ Yes _____ No

Degree Sought: ___________ Dept/Major: ___________________ Anticipated Graduation (mo./yr.): ___________

What do you intend to do after you graduate?

______________________________________________________________________________________

Revised 04/2018