Utah NASA Space Grant Consortium

Proposal Guidelines for the
Faculty Research Seed Funding Program
2019-2020 Grant Year

National Space Grant Program Goals and Objectives
The goal of the Space Grant Program is to contribute to the NASA mission specifically in the area of government and industry partnerships “to improve America’s aerospace technologies and advance American leadership” by funding education, research, and informal education projects through a national network of university-based Space Grant consortia.

The specific objectives of the Space Grant Program are to:

- Promote a strong STEM education base from elementary through secondary levels while preparing teachers in these grade levels to become more effective at improving student academic outcomes.
- Contribute to the of solving Mission Directorate challenges
- Establish and maintain a national network of universities with interests and capabilities in aeronautics, space, and related fields.
- Encourage cooperative programs among universities, aerospace industry, and Federal, state, and local governments.
- Encourage interdisciplinary training, research, and public service programs related to aerospace.
- Recruit and train U.S. citizens, especially women, underrepresented minorities, and persons with disabilities, for careers in aerospace science and technology.
- Space Grant consortia are expected to develop innovative and integrated plans to advance aerospace knowledge and expand related activities.

Research Seed Funding Opportunity
Faculty at Utah NASA Space Grant Consortium (UNSGC) affiliated institutions are invited to submit proposals to the Faculty Research Seed Funding Program. The intent of the Utah NASA Space Grant Consortium’s Faculty Research Seed Funding Program is to develop interdisciplinary research projects with UNSGC seed funding to build a sustainable capability in the state which supports NASA’s mission. UNSGC will assist researchers in focusing their research toward NASA priorities while building ties with NASA Centers and aerospace contractors. Selected faculty research projects will provide significant hands-on, authentic research opportunities for one or more STEM students. Projects that emphasize active participation from NASA center researchers and women and underrepresented minorities are particularly encouraged.

Period of Performance
Each award will begin on April 10, 2019 and conclude on May 17, 2020 (basically a 13-month period this year instead of 12 months). Budgets should reflect anticipated expenditures within this time period. Awards are not eligible for renewal.
Funds Available
Total funds proposed to be available for new research seed projects is near $60,000. Each proposer may request a minimum funding level of $10,000 to a maximum funding level of $20,000. Depending on the number of proposals received and the review of those proposals, your funding may be awarded at an amount lower than your request. The awarding of proposals is contingent upon UNSGC receiving funds from NASA for the FY 2020 funding cycle.

Eligibility
Faculty employed by Utah NASA Space Grant Consortium Affiliated Institutions are eligible to apply. The list of UNSGC affiliate institutions can be found on our website: http://www.utahspacegrant.com/about/affiliates/. Faculty who have never received Space Grant research infrastructure funding, research seed funding, or EPSCoR RID funding in the past will be given priority in making awards. Faculty who have already received funding in the past and apply again will be given secondary priority.

Proposal Guidelines
- No equipment purchases are allowed under this program.
- All UNSGC funds must be matched one-to-one from non-federal sources. Be sure to clearly identify the sources and amounts of matching funds. Examples of qualifying cost share sources include: institutional faculty or student salary match, direct institutional support, waiver of institutional F&A expenses, outside support for student salaries. If you would like to submit a proposal but are having trouble meeting the matching requirements, please contact us and we can work with you to help provide sources of matching funds or suggest ways you can collaborate with other institutions.
- All students receiving direct support must be U.S. citizens.
- Expenditures for foreign travel are prohibited.

Specific Proposal Requirements and Format
Proposals should be single-spaced on standard 8 ½ x 11 paper, no smaller than 12-point font and with no less than one-inch margins throughout. The proposal package should include the following elements:
- Internal competitive solicitation cover sheet should be the first page of submission of the entire document.
- Cover page – should state the proposal title, principal investigator(s), department and institution, project duration, total amount requested and signatures of the principal investigator, UNSGC affiliate trustee, and other appropriate signatures required at your institution
- Project Abstract – 250 words or less
- Project Narrative – to include an Introduction, Project Objectives, Key Personnel, Student Participants, Implementation Strategy, Relevance to NASA Research and Technology Development Priorities and Relevance to UNSGC Mission, Potential for Follow-on Funding
- Budget – clear, concise budget including matching support documentation, the budget must reflect a clear alignment with the content and text of the proposal, institutions submitting a proposal are expected to waive all F&A costs which can be used as matching funds toward the matching obligation
- Curriculum Vitae – attach a curriculum vitae for each principal investigator
Proposal and budget cannot exceed three pages in length, excluding cover page and curriculum vitae. The concise length of the proposals will enable expediting the review and award process. Please submit the proposal as one pdf file with cover sheet as the first page of the package, naming the file LASTNAME_FIRSTNAME_research seed.

PLEASE NOTE:
Funds will be paid through your Space Grant affiliate (existing subcontract) with the PI being the Space Grant Trustee at your institution. It is the responsibility of your institution to transfer funds internally from your Space Grant affiliate to your research account.

Evaluation and Selection Process
Each proposal submitted will be evaluated using the following criteria:

1. Scientific and technical merit of the proposed project as given by the project goals, timeline and specified project outcomes, realizing interdisciplinary research projects are highly encouraged. (30%)
2. Degree to which the proposed work contributes to the NASA research and technology development priorities as described in the NASA Office of STEM Engagement Priorities. See Appendix A. Proposals will also focus on projects that can contribute to building future research and innovative activities in Utah. (30%)
3. Degree to which the project contributes to the UNSGC strategic goal of increasing diversity in the STEM workforce and contributes to the UNSGC network. (10%)
4. Appropriateness of budget to carry out the project, including level of institutional match funding. (10%)
5. Probability for the investigator(s) to carry out the research plan and achieve the stated goals and the potential for follow-on funding. (10%)
6. Degree of significant student involvement, measured in terms of value (≥ $3,000) or participation (≥ 160 hrs) or impact on student’s academic achievement and employment. (10%)

Fixed Timeline
January 11, 2019 Release of Call for Proposals document
March 6, 2019 Proposals due, 5:00 p.m.

Proposed Timeline (no earlier than these dates)
March 7-27, 2019 Proposals reviewed
April 1, 2019 Award notification anticipated
April 10, 2019 NASA Space Grant funding year 5 begins*
February 15, 2020 Preliminary reporting due
June 1, 2020 Final results submitted

*NASA Space Grant funds for the next cycle have start date of April 10, 2019, however, we will likely receive our NASA funding award at a later date than this if history repeats itself. UNSGC will only be able to make awards and issue subcontracts upon receipt of NASA award. Therefore, the availability of funds could be delayed past the planned timeline shown above.

Reporting Requirements
A final project report is due June 1, 2020, with preliminary annual reporting details needed by February 15, 2020. Each report shall describe progress toward meeting project objectives and complete the research seed funding award reporting form for the project which is required to be submitted to the NASA Office of Education Performance Measurement System.
Additionally, faculty researchers agree to cite UNSGC as a source of funding in all publications resulting from the funded research. References to UNSGC funding should utilize the phrase “…supported in part through the Utah NASA Space Grant Consortium, Grant NNX15A124H.”

Students participating in a faculty research project must complete a Student Data Award Form. Student demographic data is required to be submitted to the NASA Office of Education Performance Measurement System.

Students participating in a faculty research project will also be encouraged to prepare a paper and/or poster and make a presentation at the Annual Space Grant Fellowship Symposium to be conducted in May 2020.

Submission Procedures
By March 6, 2019, 5:00 p.m., submit an electronic file of the complete package (pdf) via electronic mail to:

   Kim Olson, Program Coordinator, Utah NASA Space Grant Consortium
   kim.olson@utah.edu

This application package is also posted on the UNSGC Website at:
http://www.utahspacegrant.com/for-educators/
Appendix A. NASA Office of STEM Engagement Priorities

**Aeronautics Research Mission Directorate (ARMD)** ([https://www.nasa.gov/aeroresearch](https://www.nasa.gov/aeroresearch)) – Research in traditional aeronautics disciplines; research in areas that are appropriate to NASA’s unique capabilities; directly address the fundamental research needs of the Next Generation Air Transportation System (NextGEN).

**Science Mission Directorate (SMD)** ([https://science.nasa.gov/](https://science.nasa.gov/)) - High-level science research priorities are set by the National Academies of Sciences, Engineering, and Medicine every ten years and relatedly, there are three strategic themes that drive SMD’s overarching approach: Search for life elsewhere, safeguard and improve life on Earth, and discover secrets of the Universe. For more information about leveraging partners, see [https://science.nasa.gov/learners](https://science.nasa.gov/learners)

**Human Exploration and Operations Mission Directorate** (HEOMD) Research ([https://www.nasa.gov/directorates/heo/education/index.html](https://www.nasa.gov/directorates/heo/education/index.html)) - HEOMD provides the Agency with leadership and management of NASA space operations related to human exploration in and beyond low-Earth orbit. Examples include: Support for NASA’s Commercial Crew Program activities via educators and informal science venues (e.g., virtual field trip equipment, launch viewing parties, professional development workshops) and EM-1 mission support via EM-1 STEM Engagement activities (e.g., EM-1 university competition)


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<tr>
<th>Space Technology Areas</th>
<th>NASA Center(s)/Facility</th>
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<tr>
<td>Aerosciences research for flight in all atmospheres</td>
<td>ARC/LaRC</td>
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<td>Power technology and advanced development</td>
<td>GRC/MSFC</td>
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<td>Propulsion--technology and advanced development (chemical propulsion)</td>
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<tr>
<td>Propulsion--technology and advanced development (electric propulsion systems)</td>
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<td>Entry, Descent and Landing</td>
<td>ARC/LaRC/JPL</td>
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<td>Vehicle Structures and Materials Technology</td>
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<td>Advanced Manufacturing</td>
<td>LaRC/MSFC</td>
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<td>Communications and Navigation</td>
<td>GRC/GSFC/JPL</td>
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<tr>
<td>In-Situ Resource Utilization (ISRU) Technology</td>
<td>GRC/JPL</td>
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The proposal shall demonstrate alignment with Mission Directorate needs. Successful proposals will provide opportunities for students to gain hands-on research and engineering experience. Proposers shall describe how these activities will meet the STEM needs of the state and NASA.