Oregon NASA Space Grant Consortium

Affiliate Faculty Research Incubator Program (AFRIP)

2023-24 AFRIP

Award Period: October 2023-May 2024
Proposals due: **Friday, September 8, 2023, 11:59pm PT**

2024-25 AFRIP

Award Period: March 2024-January 2025
Proposals due: **Friday, January 12, 2024, 11:59pm PT**

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AFRIP Request for Proposals

Index

AFRIP Request for Proposals

SECTION 1: FUNDING OPPORTUNITY DESCRIPTION

I. Introduction

The Oregon NASA Space Grant Consortium (OSGC) is a member of the National Aeronautics and Space Administration's (NASA) National Space Grant College and Fellowship Program (Space Grant) within the NASA Office of STEM Engagement (OSTEM). OSGC supports the agency's objectives of fostering and encouraging careers in Science, Technology, Engineering, and Mathematics (STEM) and STEM education. Oregon Space Grant promotes STEM education, research, and workforce development through faculty and student programs that align with NASA's research interests. OSGC is dedicated to building, sustaining, and deploying a skilled, high-performing, capable, and diverse next-generation workforce to meet the current and emerging needs of NASA and the nation.

Access to mentor-led, experiential learning and research opportunities is crucial to enhancing a student's academic experience and preparing them for the workforce. OSGC is committed to providing programming that offers access to unique hands-on research experiences at our member institutions.

II. Program Overview

The Oregon NASA Space Grant Consortium is accepting proposals for the 2023-24 and 2024-25 Affiliate Faculty Research Incubator Program (AFRIP). The AFRIP program is designed to strengthen Oregon's research infrastructure by providing startup funding for faculty at OSGC member institutions who are conducting research that directly aligns with NASA's mission and the agency's top research priorities. Incubator awards allow faculty to build university research infrastructure by working on NASA-related research interests while fostering student engagement opportunities for STEM students.

A. Goals and Objectives

AFRIP aims to recruit faculty to become involved with OSGC and provides basic resources needed to develop authentic student engagement experiences in STEM disciplines. Such experiences include incorporating active participation by students in hands-on learning or practice with experiences rooted in NASA-related, STEM-focused questions and issues and the incorporation of real-life problem-solving skills.

B. Eligibility

Proposals will be accepted from faculty and staff employed at OSGC affiliate member institutions. Beyond the normal approval of the institution's Authorized Organization Representative (AOR), each proposal must include an approval signature of the OSGC Affiliate Representative. Visit the OSGC members page for a list of eligible institutions and affiliate representatives.

C. Use of Funding

Funds may be used to support or enhance existing projects or fund new initiatives and endeavors. Suggested categories include undergraduate research experience, teacher professional development, informal education, and experiential learning projects.

Areas of interest include but are not limited to:

- Projects related to 2023-25 upcoming solar eclipses. (https://solarsystem.nasa.gov/eclipses/future-eclipses/)
- NASA Artemis Mission for Moon and Mars exploration (https://www.nasa.gov/specials/artemis/),
- Earth Systems Science using data from NASA missions (https://science.nasa.gov/earth-science)
- Solar System Exploration https://solarsystem.nasa.gov/
- Astrophysics https://science.nasa.gov/astrophysics
- Autonomous Systems and Robotics https://www.nasa.gov/isd-autonomous-systems-and-robotics

Topics of interest should consider what fits with OSGC goals and objectives. All activities should align with

NASA Mission Directorate research priorities. All proposed activities should include a student or teacher engagement component. Students involved with AFRIP projects will present their research experience at an OSGC Student Symposium.

D. Restrictions

Equipment purchases shall not be made using OSGC funds. Foreign travel is prohibited.

The OSGC Cooperative Agreement stipulates no human subject work can be conducted under the award. Hence, Human Subject Research is prohibited from inclusion in this or any OSGC program.

III. Diversity, Equity, Inclusion, and Accessibility (DEIA)

NASA and OSGC are committed to supporting the national priority to increase diversity in the STEM workforce. Oregon Space Grant is dedicated to embedding and integrating inclusive excellence throughout all aspects of OSGC programs and activities. Individuals from underserved and underrepresented groups in STEM fields, including Native American, African American, Latino, Hispanic, and Pacific Islander, women, students of color, persons with disabilities, first-generation students, students from rural communities, and students in the LGBTQ+ community are strongly encouraged to participate in our programs. OSGC seeks to recruit applicants from a variety of higher-education member institutions and disciplines.

Principal Investigators should be considerate of OSGC's commitment to Diversity, Equity, Inclusion, and Accessibility efforts when submitting proposals. Projects should strongly encourage participation of students underserved and underrepresented in STEM.

IV. Availability of Funds

Oregon Space Grant Consortium's ability to make awards is contingent upon the availability of awarded funds from the NASA Office of STEM Engagement.

A. Period of Performance

There are two award periods for projects funded under this announcement. Proposers may apply to either call or both calls as long as two different projects are proposed for each period of performance.

Call	Award Period	Proposal Maximum
2023-24 AFRIP	October 1, 2023 – May 31, 2024	Up to $25,000
2024-25 AFRIP	March 1, 2024 – January 31, 2025	Up to $25,000

Proposers may apply for up to $25,000 per award. 1:1 non-federal cost share is required. A total of $100,000 is allocated to the 2023-24 AFRIP. Total funds allocated for 2024-25 AFRIP will range between $50,000-$70,000. Proposals not funded in the 2023-24 award period due to lack of available funding, will be considered for funding in the 2024-25 award period.

B. Schedule of Awards

Selection notifications will be communicated electronically from OSGC to the institution's Authorized Organization Representative (AOR), the Principal Investigator (PI) and the institution's OSGC Affiliate Representative.

SECTION 2: PROPOSAL AND SUBMISSION GUIDANCE

I. Proposal Format

All required documentation including appendices (Budget Narrative, Budget Table, and Timeline/Milestones) shall be provided as a single document (pdf format). An Excel spreadsheet is provided as a working document for budget development. Final tables shall be embedded within the proposal document.

Proposals shall use standard size 8 ½" x 11" paper with at least a 12-point font with a minimum 1" margin on all sides of each page. Proposals shall use an easily readable font such as Times New Roman, Calibri, Arial, Helvetica, Georgia, or Garamond. Illustrations, tables, and charts shall not be smaller than an 8-point font.

II. Required Proposal Content

Proposals are required to include the following components:

- Cover Pages *(Page limit: As needed)*
- Executive Abstract *(Page limit: 1)*
- Principal Investigator (PI) Curriculum Vitae *(Page limit: 2)*
- Body of Proposal (*Page limit: 5*)
- Appendices *(Page limit: As needed)*
  - Budget Table *(Excel template attached)*/Details and Narrative
  - Timeline/Milestones

A. Cover Pages (Page limit: As needed)

Cover page should include the following:

- Principal Investigator (PI) and contact information (address, phone, email)
- Submitting institution
- OSGC Affiliate Representative and contact information
- Proposal title
- Total amount requested
- Period of performance
- Signatures from the PI, Affiliate Representative, and the institution's AOR

B. Executive Abstract (Page limit: 1)

Concisely describe the content and scope of the project and identify the objective(s), methodology, and intended results.

C. Body of Proposal (Page limit: 5)

a. Introduction
b. Goals and objectives
c. Demonstrate how the research project and activities provide:
   - Resources for contributing to and strengthening Oregon's research infrastructure.
   - Basic resources needed to develop authentic, hands-on student experiential learning or research opportunities in STEM disciplines.
   - Student engagement experiences rooted in NASA-related, STEM-focused questions and issues, and incorporation of real-life problem-solving skills.
   - Experiences aligned with one or more NASA Mission Directorates.
d. DEIA Plan
   - Diversity, equity, inclusion, and accessibility are top priorities for OSGC, NASA, and OSTEM. Please carefully review OSGC's DEIA efforts listed on the consortium website with links to guiding documents. Describe strategies and goals your project will encompass for supporting and enhancing diversity and inclusion. Provide specific plans for promoting this opportunity to eligible underserved and underrepresented students in STEM fields, such as targeted collaboration with on-campus organizations including Native American, African American, Latinx, Hispanic, Pacific Islander, and women in STEM student organizations.
e. Demonstrate alignment with one or more NASA Mission Directorates:
   i. Aeronautics Research Mission Directorate (ARMD) http://www.nasa.gov/aeroresearch
   ii. Exploration Systems Development Mission Directorate (ESDMD) https://www.nasa.gov/directorates/exploration-systems-development
   iii. Science Mission Directorate (SMD) http://science.nasa.gov/
   iv. Space Operations Mission Directorate (SOMD) https://www.nasa.gov/directorates/space-operations-mission-directorate
   v. Space Technology Mission Directorate (STMD https://www.nasa.gov/directorates/spacetech/home/index.html
   vi. The Mission Support Directorate (MSD) https://www.nasa.gov/msd

See *Appendix A. Agency Information and Strategic Framework*

III. Required Appendices

A. Budget Details and Narrative (Page limit: As needed)

A budget narrative/description is required to accompany the budget spreadsheet. The budget shall contain sufficient cost detail and supporting information to facilitate a speedy evaluation and award.

- To expedite the evaluation of the proposal, the proposal text should reference specific and consistent budget categories and vice versa.
- 1:1 non-federal cost-share is required and should be clearly described in the budget narrative and demonstrated in the budget spreadsheet.
- Other costs (with each significant category detailed) shall be explained in reasonable detail and substantiated whenever possible.
- Domestic travel shall include the purpose, the number of trips and expected location, duration of each trip, airfare, and per diem. Domestic travel shall be appropriate and reasonable to conduct proposed activities. Foreign travel is not permitted under this or any OSGC program.

B. Budget Table (Excel Spreadsheet Budget Template attached)

Provide a budget spreadsheet for the proposed work. The proposed budget shall be adequate, appropriate, reasonable, realistic, and demonstrate the effective use of funds to align with the proposed projects.

- The budget table shall reflect clear alignment with the content and text of the proposal.
- Direct labor costs shall be separated by titles (e.g., director, program manager, program coordinator, student research assistant, clerk, etc.) with estimated hours, hourly rates, and total amounts of each if applicable.
- An Excel spreadsheet budget template is provided to assist with budget development. The budget table shall be embedded in the final document for submission.

C. Timeline/Milestones (Page limit: As needed)

Proposers are required to submit a timeline/milestone chart that aligns with the proposed period of performance. Items listed shall align with the content of the proposal, budget, and budget narrative. The timeline/milestone table shall be embedded in the final document for submission.

IV. Proposal Evaluation Criteria

Proposals will be evaluated by OSGC staff for compliance with this request for proposals and reviewed by an external review panel. Final award decisions are made by the OSGC Director. All sections of the proposal will be individually evaluated. Proposals will not be considered unless all solicitation requirements are met. The review panel will consider the following:

1) Required elements are included in proposal (see Proposal Content, Section 2.II).
2) Proposal includes student engagement opportunities and provides the basic resources needed to develop authentic, hands-on student learning or research experiences in STEM disciplines.
3) Experiences are rooted in NASA-related STEM-focused questions and issues.
4) Demonstrates how problem-solving skills will be utilized in the proposed activities.
5) Proposed activities incorporate DEIA efforts to include individuals from underserved and underrepresented groups in STEM fields.
6) Alignment with NASA Mission Directorates and the agency's top research priorities.
7) Alignment of budget with proposed activities.

V. Deliverables if Awarded

A. Student Data

Students who are significantly involved with AFRIP projects (minimum of 160 hours participation) are longitudinally tracked to evaluate the effectiveness of NASA's higher education programs and are expected to present their research/experience at a mandatory OSGC Student Symposium. OSGC staff will provide guidance to awardees on student data collection.

B. Final Report

The Principal Investigator shall provide a final project report to the OSGC Director. This report shall include a summary of overall program achievements, expenditure report including cost share, and student data information.

C. Billing

The Principal Investigator shall work closely with their sponsored programs office to ensure invoices are submitted to OSU Office of Sponsored Research and Award Administration (OSRAA) on a regular basis.

D. Articles and Publications

OSGC must be cited as a source of funding in all publications resulting from the work using the phrase *"…supported in part through NASA and Oregon Space Grant Consortium, cooperative agreement 80NSSC20M0035"*. The PI must contact OSGC should peer-reviewed journal articles or papers from conferences be published as a result of the work, so that publications can be made accessible to the public through NASA's PubSpace at https://www.nihms.nih.gov/db/sub.cgi. PubSpace provides free access to NASA-funded and archived scientific publications. Research papers will be available for download within one year of publication.

VI. Proposal Submission

Proposals must be submitted as a single pdf document by 11:59pm Pacific Time. Due dates for proposals are as follows:

Call	Due Date
2023-24 AFRIP	Friday, September 8, 2023
2024-25 AFRIP	Friday, January 12, 2024

Submit complete proposal packages online: **https://spacegrant.net/proposals/osgc/**

VII. Inquiries

Inquiries regarding the submission of proposal materials should be addressed to:

Catherine Lanier, OSGC Interim Director catherine.lanier@oregonstate.edu

APPENDIX A: AGENCY INFORMATION AND STRATEGIC FRAMEWORK

NASA Vision
To explore the secrets of the universe for the benefit of all

NASA Mission
NASA explores the unknown in air and space, innovates for the benefit of humanity, and inspires the world through discovery.

Strategic themes that make up the foundation of the 2018 Strategic Plan and NASA's goals

- **DISCOVER** - Expand human knowledge through new scientific discoveries
- **EXPLORE** - Extend human presence deeper into space and to the Moon for sustainable long-term exploration and utilization
- **DEVELOP** - Address national challenges and catalyze economic growth
- **ENABLE** – Optimize capabilities and operations

NASA 2018 Strategic Plan
https://www.nasa.gov/sites/default/files/atoms/files/nasa_2018_strategic_plan.pdf
NASA's vision and mission draw support from the organizational structure of the Mission Directorates, each with a specific responsibility.

NASA's link to Earth Science Decadal Study:
https://science.nasa.gov/earth-science/decadal-surveys

NASA's Vision for Space Exploration:
http://www.nasa.gov/exploration/home/index.html

NASA's Current Topics and Relevant Missions:

Humans in Space
International Space Station (ISS) - Commercial Crew Program (CCP) - NASA Astronauts - Low Earth Orbit (LEO) Economy

Moon to Mars
Commercial Lunar Payload Series (CLPS) Initiative - Lunar Gateway - Artemis Mission - Space Launch System (SLS)

Earth
Air – Climate - Hazards - Water, Oceans, and Ice - Land

Space Tech
Space Travel - Living in Space - Manufacturing, Materials, and 3-D Printing - Robotics - Science Instruments - High-Tech Computing

Flight
Green Aviation - Future Aircraft - Supersonic Flight - Reducing Flight Delays - Unmanned Aircraft

Solar System and Beyond
Planets, Moons, and Dwarf Planets - The Search for Life and Exoplanets - The Sun - Stars and Galaxies - Black Holes - Dark Energy and Dark Matter

Current High-Profile NASA Missions

- Artemis Program
- Commercial Crew Program
- Curiosity Mars Rover
- Hubble Space Telescope
- InSight Mars Lander
- International Space Station
- James Webb Space Telescope

- Juno: Mission of Jupiter
- Lunar Reconnaissance Orbiter
- Mars Perseverance Rover
- New Horizons: Pluto and Beyond
- OSIRIS-Rex Asteroid Mission
- Parker Solar Probe

NASA's Mission Directorates

- 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. https://www.nasa.gov/aeroresearch
- Exploration Systems Development Mission Directorate (ESDMD): defines and manages systems development for programs critical to the NASA's Artemis program and planning for NASA's Moon to Mars exploration approach in an integrated manner. ESDMD manages the human exploration system development for lunar orbital, lunar surface, and Mars exploration. ESDMD leads the human aspects of the Artemis activities as well as the integration of science into the human system elements. ESDMD is responsible for development of the lunar and Mars architectures. Programs in the mission directorate include Orion, Space Launch System, Exploration Ground Systems, Gateway, Human Landing System, and Extravehicular Activity (xEVA) and Human Surface Mobility.
- 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. http://science.nasa.gov/
- Space Operations Mission Directorate (SOMD): manages NASA's current and future space operations in and beyond low-Earth orbit (LEO), including commercial launch services to the International Space Station. SOMD operates and maintains exploration systems, develops and operates space transportation systems, and performs broad scientific research on orbit. In addition, SOMD is responsible for managing the space transportation services for NASA and NASA-sponsored payloads that require orbital launch, and the agency's space communications and navigation services supporting all NASA's space systems currently in orbit.
- 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. http://www.nasa.gov/directorates/spacetech/home/index.html.
- The Mission Support Directorate (MSD): enables the Agency's missions by managing institutional services and capabilities. MSD is actively reducing institutional risk to NASA's current and future missions by improving processes, stimulating efficiency, and providing consistency and uniformity across institutional standards and practices. https://www.nasa.gov/msd.

APPENDIX B: Budget Template Example - Use Excel Spreadsheet for Budget Development

Proposal Title:
PI (Faculty Member)
Mentor:
Period of Performance:
Total OSGC funds Request:
Total Institutional Match:

Notes:
a. Add rows as needed
b. List total project costs. Itemize by source: OSGC award funding or affiliate institution costshare match

Salary/OPE	OSGC Funds	Cost-Share (affiliate match)	Total Funding (OSGC awd plus affilliate match)
A. Personnel/ Direct Labor			
1			$ -
2			$ -
3		$ -	$ -
4			$ -
Total Salaries	$ -	$ -	$ -
B. Fringe Benefits			
1			$ -
2			$ -
3			$ -
4			$ -
Total Fringe	$ -	$ -	$ -
Project Materials & Supplies			
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
Total Project Materials & Supplies	$ -	$ -	$ -
Travel			
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
Total Travel	$ -	$ -	$ -
Other Project Expenditures			
	$ -		$ -
	$ -		$ -
Total Other Project Expenditures	$ -	$ -	$ -
Total Direct Project Costs	$ -	$ -	$ -
Indirect Cost	$ -	$ -	$ -
Total Cost	$ -	$ -	$ -
Total Available Funding	$ -	$ -	$ -
Difference	$ -	$ -	$ -

Total Requested Funding from OSGC	$ -
Cost Share Ratio	#DIV/0!

APPENDIX C: Source of Matching Funds Example

Source of Matching Funds-Consortium affiliate institution:

Amount	Funding Source:
$XX,XXX	
$XX,XXX	
$XX,XXX	
$XX,XXX	
$XX,XXX	
$XX,XXX	
$XX,XXX	
0	**Total affiliate matching funds**

**Total source funds should equal total institutional match in cell B6*