Oregon NASA Space Grant Consortium

2024-25 Faculty Research Award Program

Request for Proposals

Award Period: May 2024-February 2025
Proposals due: **Friday, April 12, 2024, 11:59pm PT**

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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) by promoting STEM education, research, and workforce development opportunities with faculty and student programming that aligns with NASA's research interests. Oregon Space Grant provides support for undergraduate and graduate students pursuing STEM careers, faculty aerospace- and space science-related research, K-12 professional development, and informal education efforts to increase awareness and promote science literacy. 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.

Oregon Space Grant's efforts align with the goals and objectives of NASA Strategy for STEM Engagement 2023. OSGC programs are designed with emphasis on the following three focus areas identified by NASA OSTEM:

1) Create unique opportunities for a diverse set of students to contribute to NASA's work in exploration and discovery.
2) Build a diverse future STEM workforce by engaging students in authentic learning experiences with NASA's people, content, and facilities.
3) Attract diverse groups of students to STEM through learning opportunities that spark interest and provide connections to NASA's mission and work.

PROGRAM OVERVIEW

The OSCG Faculty Research Award program supports aerospace- and space science-related research that cultivates collaboration and engages the research culture to better guide students in pursuit of STEM careers. The goal of the program is to provide a mutually beneficial opportunity that facilitates progress toward a faculty member's research while addressing NASA's top research priorities and areas of emphasis to advance the agency's mission. The Faculty Research Award program should simultaneously provide unique, experiential learning opportunities for students to engage in faculty research. OSGC is accepting faculty research proposals that strategically align with NASA OSTEM focus areas and NASA Mission Directorates.

ELIGIBILITY

Faculty from OSGC higher education affiliate member institutions are invited to submit proposals. Students and faculty receiving direct support must be U.S. Citizens. Proposals must go through the institution's sponsored programs office and meet approval of the institution's Authorized Organization Representative (AOR). Proposals must include an approval signature of the OSGC Affiliate Representative. Go to https://spacegrant.oregonstate.edu/members-oregon-nasa-space-grant-consortium for a list of eligible institutions and affiliate representatives.

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.

AWARD TERMS AND CONDITIONS

Availability of Funds

A total of $110,000 will be competitively awarded through the OSGC Faculty Research Award program. Proposal requests can range from $40,000 up the full $110,000. Up to two proposals may be funded based on project submissions and funding requests.

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

Period of Performance

The period of performance is May 1, 2024 – February 21, 2025. All costs on both OSGC funds and affiliate match must be fully expended during the active period of performance.

Cost Share Requirement

Award recipients will share in providing the resources necessary to perform the work supported by this agreement. A minimum 1:1 non-federal cost-share contribution to project objectives is required. Cost share 1) must be verifiable and 2) may not include contributions from any other Federal award. Cost share/match contributions can be 1) PI time (Salary and OPE) toward projects, 2) project expenses & travel, 3) F&A (indirect costs) on cost shared amounts, 4) unrecovered F&A on student support or OSGC funds, and/or 5) donations of time, supplies, or equipment may also be considered (OMB Uniform Guidance 200.306 *Cost Sharing or Match*).

Award Notification

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

Restrictions

Equipment purchases—as defined by *2 CFR 200.1* are items greater than $5,000 and have a useful life of more than 1 year—are contingent upon funding agency approval.

Foreign travel is prohibited on OSGC funds and cost share.

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

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 for budget development. The final Excel budget spreadsheet must also be submitted separately. Final tables shall be embedded within the proposal.

Proposals should be single-spaced, using standard 8 ½ x 11 paper, 12-point font, with 1" margins and an easily readable font such as Times New Roman, Calibri, Arial, or Helvetica. All pages must be numbered sequentially. Illustrations, tables, and charts shall not be smaller than 8-point font.

REQUIRED PROPOSAL CONTENT

Cover Page (Page limit: 1)
Cover page should include the following:

- Title
- Principal Investigator (PI) name and contact information (address, phone number, and email address)
- Submitting institution
- OSGC Affiliate Representative and contact information
- Period of performance
- OSGC funding request and cost share amounts
- Signatures from PI, Affiliate Representative, and institution's AOR

Abstract (Page limit: 1)
Concisely describe the content and scope of the project and identify the objective(s), methodology, and intended results.

Body of Proposal (Page limit: 6):
Proposals shall include the following elements:

- Introduction
- SMART Goals and objectives (specific, measurable, attainable, relevant, and timely).
- Project description including approach and methodology.
- Student engagement component - Describe how the research opportunity provides authentic student learning experiences rooted in NASA-related, STEM-focused questions and issues that incorporate real-life problem-solving skills.
- DEIA Plan - Diversity and inclusion 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 research opportunity to eligible underserved and underrepresented students in the 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.
- Demonstrate how the proposed work contributes to advancing Oregon's research infrastructure.
- Demonstrate alignment with NASA OSTEM areas of focus (see Introduction):
    - About NASA STEM Engagement
    - NASA Strategy for STEM Engagement 2023
- Demonstrate alignment with one or more of 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*

REQUIRED APPENDICES

Budget Details and Narrative (Page limit: As needed)

A budget narrative/description must accompany the budget spreadsheet. The budget shall contain sufficient cost detail and supporting information to facilitate an expeditious 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) must be explained in reasonable detail and substantiated whenever possible.
- Direct labor costs shall be separated per position (e.g., director, program manager, coordinator, student research assistant, etc.) with estimated hours or FTE, hourly rate/annual salary, and total anticipated amount to award or cost share where applicable. Fringe benefits shall be listed separately from labor costs and separated per position.
- 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.
- See 2 Code of Federal Regulations (CFR) Part 200 - *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* and Office of Management and Budget (OMB) Circular A-21 *Cost Principles for Educational Institutions* for additional grant restrictions and rules.

Budget Table (Page limit: As needed) - 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 and justification.
- The required Excel spreadsheet budget template is provided to assist with budget development. This form must be used; be sure to complete the Source of Matching Funds section.
- The budget table must be embedded as an image in the final document to allow reviewers easy access to all required proposal content in one place.
- The budget spreadsheet must **also** be submitted separately as an Excel file, which allows fiscal coordinators to easily review the budget calculations.

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.

Curriculum Vitae (Page limit: As needed)
Include two-page CVs for all investigators. Provide a list of current and pending grant support, including title of proposals, dates, funding agency, and amount of funded awards.

REVIEW PROCESS

Proposals will be evaluated by OSGC staff for compliance with the RFP 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.
2) Scientific/Engineering merit
3) Proposal includes student engagement opportunities and provides the basic resources needed to develop authentic, hands-on student learning or research experiences in STEM disciplines.
4) Proposed activities incorporate DEIA efforts to include individuals from underserved and underrepresented groups in STEM fields.
5) Alignment with NASA OSTEM focus areas and NASA Mission Directorates and the agency's top research priorities.
6) Alignment of budget with proposed activities.
7) Feasibility - goals and objectives are realistic and attainable.
8) Broader Impact

DELIVERABLES IF AWARDED

- **Student Data:** Students who are significantly involved with the Faculty Research Award Program (minimum of 160 hours participation) are longitudinally tracked to evaluate the effectiveness of NASA's higher education programs. These students are expected to present their research/experience at the OSGC Student Symposium held in February 2025. OSGC staff will provide guidance to awardees on student data collection.

- **Billing:** The Principal Investigator shall work closely with their sponsored programs office to ensure invoices and cost share contributions are submitted to OSU Office of Sponsored Research and Award Administration (OSRAA) on a regular basis. Invoices not received within 60 days of subaward end date will not be paid.

- **Progress and Final Reports:** A progress report is required and due September 2024. The progress report should detail the program achievements and highlights that emphasize the work being done. Describe milestones that have been met, including major events that affect the ability to meet milestones. Include an expenditure report to date.

  A final report is due 60 days after period of performance ends. The final report should include program outcomes, student engagement and DEIA efforts, broader reach to the STEM community, and a final expenditure table including budget details that tie back to the proposed budget categories and proof that cost-share obligations have been met.

  The progress and final report are required by OSGC and are in addition to any final close out reports requested by OSRAA. Progress and final reports should be uploaded to the OSGC Deliverables Box folder.

- **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 research, 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.

PROPOSAL SUBMISSION

Proposals must be submitted by **11:59pm Pacific Time, Friday, April 12, 2024.** A complete proposal package includes the following two items: 1) a single pdf document with all required proposal content, including required appendices and 2) the budget spreadsheet Excel document. Proposals packages must be submitted online: **https://spacegrant.net/proposals/osgc/**

INQUIRIES

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

Catherine Lanier, Director, Oregon Space Grant Consortium
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 attached excel spreadsheet for budget development

Proposal Title:	
PI (Faculty Member)	
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 matc	Total Funding (OSGC awd plus affilliate ma
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 Requested Funding from OSGC	$ -
Cost Share Ratio	#REF!

APPENDIX C: SOURCE OF MATCHING FUNDS EXAMPLE – See Excel Budget Spreadsheet

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*