Oregon NASA Space Grant Consortium

2023-24
Undergraduate Team Experience Award Program (UTEAP)

Open to students attending OSGC
Community College and 4-Year Member Institutions

Program Guide

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UTEAP Award Program Guide

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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). OSGC supports the agency's objectives of fostering and encouraging careers in Science, Technology, Engineering, and Mathematics (STEM) and STEM education to develop a skilled, high-performing, capable, and diverse next-generation workforce. Access to experiential learning and research opportunities are crucial to enhancing a student's academic experience to meet the needs of NASA and the nation. OSGC programs are directed towards undergraduate students in STEM fields and designed to complement a student's academic career experience.

NASA and OSGC are committed to student success and to supporting the national priority to build a more diverse 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 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.

PROGRAM DESCRIPTION

Student teams at OSGC member institutions are invited to submit proposals to the OSGC Undergraduate Team Experience Award Program (UTEAP). The intent of the Undergraduate Team Experience Award Program is to fund student-led, research and engineering projects that develop a diverse, capable, and prepared workforce in aerospace-related STEM disciplines and provide a unique, experiential student team learning experience. Projects should be hands-on, STEM-based research or engineering 1) supporting NASA's vision *to explore the secrets of the universe for the benefit of all;* 2) aligning with NASA's mission to e*xplore the unknown in air and space, innovate for the benefit of humanity, and inspire the world through discovery;* and 3) providing relevant contributions towards solving NASA Mission Directorate challenges and aligning with the agency's top research priorities.

Projects are not required to, but may lead to participation in a national and regional student competition. Examples of potential projects include, but are not limited to, the NASA Micro-g NExT Challenge, NASA University Student Launch Initiative, AIAA Experimental Sounding Rocket Association Intercollegiate Rocket Engineering Competition, NASA Lunabotics Competition, NASA Human Exploration Rover Challenge, NASA CubeSat Initiatives, First Nations Launch, and the RockOn!, RockSat-C, or RockSat-X Space Grant/NASA Wallops Programs.

Participation of women, underrepresented and underserved groups in STEM fields, and persons with disabilities is strongly encouraged and should be considered when forming teams. Teams with diversity of membership will be given priority. Teams are required to include a K-12 outreach component for delivering activities remotely or in-person.

AWARD TERMS AND CONDITIONS

Award Funds

For the 2023-24 funding cycle, a total of $95,000 will be competitively awarded to student teams from OSGC member institutions. If awarded, all work must be completed by June 30, 2024.

Note: Oregon Space Grant Consortium's obligation to make awards is contingent upon availability of funds from the NASA National Space Grant College and Fellowship Program through the NASA Office of STEM Engagement.

Equal Opportunity and Diversity
Students from underserved groups and groups underrepresented in STEM fields—specifically Native American, African American, Latino, Hispanic, and Pacific Islander, those who identify as female, and persons with disabilities are strongly encouraged to apply. OSGC seeks to recruit applicants from a variety of higher-education member institutions and disciplines and strives to make programs available and accessible to all STEM students attending our member institutions.

Participation of underrepresented and underserved groups in STEM fields, persons identifying as female, and persons with disabilities is strongly encouraged; diversity of team membership will be ranked accordingly by the review committee.

Interdisciplinary collaboration is strongly recommended. Teams do not have to include students from a single department or discipline. We encourage teams to recruit students from other departments/colleges on campus to bring expertise to the team. For example, a business student is an excellent recruit to help the team manage the budget, an education student can help direct K-12 outreach, and a graphic design or communication student can assist with team graphics, reports, and presentations.

Restrictions
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.

FUNDING GUIDELINES AND REQUIREMENTS

Funding Limits and Cost Share Requirements
Teams may submit requests for funding up to $10,000 per team. A minimum 1:1.5 match obligation is required and is non-negotiable. Matching funds include donations, lab/equipment time, discounts, team travel contributions, and faculty advisor time from non-federal sources. Teams are required to submit a Letter of Commitment form with the proposal to demonstrate the minimum cost-match obligation. Budget table should reflect the minimum required match; however, cost share above the minimum amount is acceptable and will be reported upon completion of the project in the final report. The criteria and procedures for the allowability and allocability of cash and non-cash contributions are governed by 2 CFR 200.306. The applicable Federal cost principles are cited in Subpart E and are incorporated by reference.

Allowable Expenses
Funding requests may include supplies, parts, and registration fees and/or lodging accommodations related to a project competition or workshop. Airfare costs may be included in the proposal; teams sign off on a travel agreement when the award is accepted. Expenditures for foreign travel are prohibited, nor can foreign travel expenses be applied to the project's cost share requirement. Equipment purchases (over $5,000) are not allowable expenses for this program.

Proposal Authorization
Submitted proposals must include documentation of support and approval from the applicant's department and their institution's Sponsored Programs Office. **Please allow extra time for this process.** Exceptions to application date will not be made due to proposals held up in Sponsored Programs.

Note: Awards are processed as subawards to the team's institution with the faculty mentor as Principal Investigator (PI). OSU is the OSGC host institution; therefore, OSU teams submitting proposals are not required to seek approval from the OSU Office of Sponsored Programs as they will not receive funds via a subaward. All teams are required to have mentor's approval on the proposal packet.

ELIGIBILITY

- Recognized student teams from OSGC affiliate institutions are eligible to apply.
- All students participating in the project must be enrolled at an Oregon Space Grant member institution. Go to http://spacegrant.oregonstate.edu/members-oregon-nasa-space-grant-consortium for a list of OSGC affiliate member institutions and the institution representative's contact information.
- All students participating in the project must be U.S. citizens.

PROPOSAL REQUIREMENTS AND FORMAT GUIDELINES

Proposals should be single-spaced, using standard 8½ x 11 paper, in font not smaller than 12-point with a minimum of 1" margins. All pages must be numbered sequentially. Proposals must include the following:

Cover Page (Page limit: 1 page):
Includes the following:

1) Project Title/Team Name
2) Institution
3) Team Lead Name and Contact Information (address, phone, and email)
4) Team Faculty Advisor/Mentor and Contact Information (address, phone, and email)
5) Date of Submission

Project Description (Page limit: 3 pages):
Succinctly describe proposed research/project including methodologies and approaches. Summarize the scholarly and creative aspects of the project and how they support your educational objectives. What are the expected outcomes from your research (e. g. senior thesis, participation in industry competition, increased understanding of research, art exhibition, etc.), and how will you achieve these outcomes?

Synergy (Page limit: 1 page):
Describe the aspects of the project that enhance the collaborative learning experience between your team and your project advisor/mentor. Describe any leveraging opportunities the project will provide for funding or further research. Will the project lead to additional opportunities for either the team or the advisor that would not have otherwise been developed, or is the activity being used as a mechanism to fund a project such as a senior thesis or capstone?

Space Science/Aerospace Relevancy (Page limit: 1 page):
Describe how your research supports the mission and vision of NASA and how it **substantively** aligns with the agency's top research priorities of one or more of NASA Mission Directorates. See *Appendix A. Agency Information and Strategic Framework*. For a detailed description of NASA's mission, history, and future plans, visit the following NASA website:
http://www.nasa.gov/about/highlights/what_does_nasa_do.html.

Diversity, Equity, Inclusion, and Accessibility (DEIA) Effort Statement (Page limit: 1 page):
Diversity and inclusion are top priorities for NASA, the Office of STEM Engagement, and the Oregon Space Grant Consortium. Describe strategies and goals your project will encompass for supporting and enhancing diversity, equity, inclusion, and accessibility. Describe the demographic diversity of your team, as well as the interdisciplinary approach to building your team. Provide a clear and comprehensive account of recruitment and retention efforts for inclusion of women, underrepresented and underserved groups in STEM, and persons with disabilities for involvement in your project. Include specific plans for promoting this opportunity to eligible female students, students with

disabilities, and underrepresented students in the STEM fields, such as targeted advertisement and collaboration with on-campus organizations including Native American, African American, Latinx, Hispanic, Pacific Islander, and women in science and engineering student organizations.

Outreach Plan (Page limit: 1 page):
Provide a detailed description of proposed K-12 outreach activities associated with the project. An outreach plan is required for funding consideration.

Timeline (Page limit: 1 page):
Provide a timeline of important milestones and deadlines for completion of the project within the allotted timeframe.

Budget Table and Budget Narrative (Page limit: As needed):
Provide a budget spreadsheet for the period of performance of proposed work (reference *Appendix B: OSGC Budget Template).* The proposed budget shall be adequate, appropriate, reasonable, realistic, and demonstrate the effective and appropriate use of funds to align with the proposed project. The budget and budget justification shall clearly align with the content and scope of the proposed effort and contain sufficient cost detail and supporting information to facilitate a prompt evaluation and award. The funding ask from OSGC and cost share source and obligation should be clearly stated. Provide a Letter of Commitment (reference *Appendix C: Letter of Commitment Form).* A budget narrative/description is required and shall accompany the spreadsheet.

Team Lead's Current Résumé (Page limit: 2 pages):
Include the team lead's current résumé or CV.

Team Member List and Demographics (Page limit: As needed):
Provide names, emails, and verification of U.S. citizenship of student team members who will be significantly involved with the program (a commitment of 160 hours or more). Include percentages for team demographics and gender. Students who are listed on the team roster will be asked to complete an online Student Profile Form and a NASA Gateway profile if the team is funded.

Project Faculty Advisor/Mentor Statement of Support (Page limit: 2 pages):
The faculty advisor must provide a Statement of Support acknowledging their role and expectations as advisor for the project and approval of the timeline, budget including cost share obligation, and proposal as submitted. The faculty advisor understands their role in communicating with their sponsored programs office to ensure invoices are submitted monthly and funds are spent within the period of performance.

Authorization:
Submitted proposals must include the faculty mentor's signature and be signed off on by the institution's sponsored programs office in order to be accepted. Note: OSU teams do not go through sponsored programs but do need to include the required faculty mentor's signature.

DELIVERABLES IF AWARDED

If awarded, the team agrees to the following:

Letter of Acceptance*:*
A Letter of Acceptance will be sent out to teams selected for funding. Teams agree to return a signed Letter of Acceptance which provides the following:

- Team lead name and contact information
- Point of contact with Space Grant if different than the team lead
- Verification of team members who are significantly involved with the project
- Verification of team members' US citizenship
- Travel agreement

- Cost-share match obligation
- Team mentor's signature agreeing to the accepted responsibilities and deliverables of the award

Student Profile Form:
All team members who are significantly involved with the project (commitment of 160 hours or more) must complete an online confidential Student Profile Form and a NASA Gateway profile. This information is used for reporting and longitudinal tracking purposes to evaluate the effectiveness of NASA's Office of STEM Engagement higher education programs.

Student Symposium:
The team agrees to participate in the mandatory Fall OSGC Student Symposium. A team poster and presentation are required for the event. The Student Symposium is scheduled for October 2024 and will be held in person on the Oregon State University campus in Corvallis, OR.

Final Report:
A final report is due August 30, 2024, 60 days after award ends. The report should be between 4-6 pages and should be written by the students and signed off on by the team mentor. Final reports should include detailed descriptions of the following:
- Execution of the project
- Outcome of the competition (if applicable)
- Evaluation and analysis of the results
- Summary of DEIA/outreach efforts and impact
- Budget expenditures including evidence that the cost share match obligation was met. Provide separate tables for OSGC funds and match funds with subtotals and totals. Final budget table should tie back to proposal expenditures. Teams are required to submit a *Cost Share from Outside Sources* form along with a final budget expenditure table.
- List of publications arising from the work (if applicable)

Note: Teams who are required to submit final reports for competitions may submit that report to OSGC as an appendix; however, it does not serve as the OSGC final report addressing the details listed above.

Contact Information
The team agrees to notify OSGC of any changes in team lead/point-of-contact or changes to mailing address, email, and telephone number for contact purposes.

Information/Media Release
The team grants permission to release and/or publish requested recipient information to NASA or other appropriate parties. Students submit a signed Media Release Form, granting OSGC permission to release information and utilize any submitted photos from posters and/or presentations for publications and/or social media.

Funding Source Citation
OSGC must be cited as a source of funding in all publications resulting from the team's work using the phrase "…supported in part through NASA and Oregon Space Grant Consortium, cooperative agreement 80NSSC20M0035".

PROPOSAL EVALUATION CRITERIA

Proposals will be reviewed by a diverse selection committee who make recommendations for funding. Proposals are ranked based on the following criteria:
- **Complete Proposal** – required elements are included (see Proposal Requirements section)
- **Synergy** – the project enhances the collaborative learning experience between the team and the faculty advisor

- **Space science/aerospace relevancy** – alignment with NASA Mission Directorates and the agency's top research priorities
- **Strength of DEIA effort** – interdisciplinary teams and diversity of teams to include female, underserved and underrepresented students in STEM fields, and students with disabilities, and includes a DEIA recruitment and retention plan
- **Outreach Plan –** proposed outreach activities that extend the reach to K-12 communities
- **Budget** –budget table and narrative align with proposed activities and includes the required cost share match. OSGC ask and cost share obligation/source are clearly stated
- **Faculty Advisor Statement of Support** – demonstrates the advisor's commitment to the project and approval of activities, budget, and timeline
- **Authorization** – proposal includes the required signatures and approval from the institution's sponsored programs office

SUBMISSION GUIDELINES

Submit a single electronic file of the complete proposal package (Microsoft Word or PDF) by close of business (5pm PT), Friday, **December 1, 2023.** Submitted proposals must include a budget spreadsheet and Letter of Commitment (cost share) as well as required signatures.

Upload complete proposal packages to the Undergraduate Team Experience Award Program secure Box folder. Files should be labeled as follows: *Institution_Team lead last name_Mentor last name_Proposal Title* (abbreviated version is acceptable). Example: OSU_Lanier_Smith_USLI

Upload Complete Proposals Here

SCHEDULE OF AWARDS

Proposals will be reviewed by the selection committee and award announcements made in **December 2023**.

Appendix A: Agency Information and Strategic Framework

NASA's current topics and relevant missions are listed below. Students should use these priorities to guide them in the selection of a STARR research review topic.

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

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 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.

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 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: OSGC Budget Template

Proposal Title:	
Institution:	
PI (Student or 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!

Letter of Commitment to Establish a Subrecipient Agreement

Office for Sponsored Research and Award Administration

The subrecipient may use their standard Institutional Letter of Commitment **or** this form as an optional alternative. Please complete the form below **or** provide an Institutional Letter of Commitment to include the following information to proposals@oregonstate.edu.

Subrecipient Institution Name:	**Address:**	**EIN:**	**UEI:**
Subrecipient Principal Investigator:	**Phone:**	**Email:**	
Proposal Title:			
Proposed Start Date:	**Proposed End Date:**	**Total Proposed Amount:**	**Total Proposed Cost Share:**
Administrative Contact:	**Authorized Official Name and Title:**	**Authorized Official Address and Contact Info:**	

Conflict of Interest (COI): Applicable to PHS, NSF or other sponsor requiring adherence to the federal financial disclosure requirements. Select one:

1	☐	My organization has a conflict of interest policy that is compliant with the PHS Financial Conflict of Interest Regulations (42 CFR Part 50 Subpart F), NSF or other sponsors requiring adherence to the financial disclosure requirements.
2	☐	My organization does not have a compliant conflict of interest policy and agrees to follow Oregon State University's Financial Conflict of Interest policy. Please request OSU's Conflict of Interest Disclosure form from proposals@oregonstate.edu for each investigator.
3	☐	Not applicable: This project is not funded by PHS, NSF or any other sponsor that has adopted the financial disclosure requirements.

Please include the following:

1	☐	Statement of Work	4	☐	4a. F&A Published Policy/Negotiated Rate Agreement
2	☐	Budget (Excel)		☐	4b. Does Not have a Rate Agreement
3	☐	Budget Justification	5	☐	Other:

The information, certification, and representations above have been read, signed, and made by an authorized institutional official of the subrecipient. The appropriate programmatic and administrative personnel involved in this grant application are aware of awarding agency's policies, agree to accept the obligation to comply with the award terms, conditions and certifications, and are prepared to establish the necessary inter-institutional agreement consistent with that policy.

Authorized Organization Representative Name:	**Authorized Organization Representative Signature:**
Title:	**Date:**