



Oregon NASA Space Grant Consortium

2024-25

**STudent Academic Research Review (STARR)
Award Program**

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

Program Guide

**Release Date: November 5, 2024
Applications Due: December 4, 2024**



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STARR 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 in order to meet the needs of NASA and the nation. OSGC programs are directed towards 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.

The Oregon Space Grant *STudent Academic Research Review (STARR)* award program is directed towards STEM and STEM Education students attending our member community colleges and four-year universities who are interested in space science/aerospace-related careers. The STARR Program provides students an opportunity to apply for an award to enhance and supplement their study in STEM and STEM education. STARR awards also serve to recognize student's achievements in these fields.

STARR awards are open to students in a broad range of STEM disciplines, including aerospace-related engineering and mathematics, as well as science and math education, earth sciences, chemistry, biology, food science, and computer science relating to NASA's vision and mission. Students are encouraged to contact OSGC with questions about field of study eligibility.

ELIGIBLE INSTITUTIONS

Applicants must be enrolled and in good academic standing throughout the entire award period at one of the following member institutions:

4-Year Colleges and Universities

- Eastern Oregon University (EOU)
- George Fox University (GFU)
- Oregon Institute of Technology (OIT)
- Oregon State University (OSU)
- Pacific University (PU)
- Portland State University (PSU)
- Southern Oregon University (SOU)
- University of Oregon (UO)
- University of Portland (UP)
- Western Oregon University (WOU)

Community Colleges

- Lane Community College
- Linn-Benton Community College (LBCC)
- Portland Community College (PCC)
- Southwestern Oregon Community College (SOCC)

Go to <https://spacegrant.oregonstate.edu/members-oregon-nasa-space-grant-consortium> for your institution representative's contact information.

PROGRAM DESCRIPTION

STARR is a research review program and does not involve hands-on research. A research review is a deep dive into a research topic and includes an overview, a summary, and an evaluation or critique of the current knowledge that already exists about a specific area of research. A research review may also include a discussion of methodological issues and suggestions for future research.

STARR is a steppingstone opportunity designed to help students gain a more comprehensive understanding of the research process and be better prepared for future hands-on research opportunities such as NASA internships, Research Experience for Undergraduates (REUs), or senior capstone projects. Applicants select a topic to review that involves current NASA-related research. Selected topics must align with one or more of NASA Mission Directorate's top priorities or speak to the challenges facing the execution of current missions. Topics should be specific and narrow in scope.

If awarded, STARR recipients will thoroughly review the existing literature and research pertaining to a selected research topic and write a white paper evaluating/critiquing the current knowledge that already exists on the selected topic. The white paper must include insight into the contributions of the research being conducted and demonstrate interdisciplinary applications of the research and how it might potentially extend to other areas of science or engineering relating to NASA's priorities and areas of emphasis. **Students will not be conducting research of any kind.**

STARR recipients must identify a faculty member at their respective institution who has expertise relevant to the research being reviewed and who agrees to serve as faculty advisor on the project. The advisor must be willing to mentor the student, review/edit the student's work, and provide guidance throughout the process; however, white papers must ultimately be the original work of the student.

AWARD TERMS AND CONDITIONS

Award Funds

A total of \$40,000 will be awarded in the 2024-25 STARR Program, contingent upon funding from NASA Office of STEM Engagement. STARR awards will be competitively awarded to students enrolled at an OSGC affiliated community college or 4-year institution. STARR awards will be executed in winter term of 2024-25 academic year; all work must be completed by February 14, 2025. Award payments will be made in two disbursements. Awardees will receive \$1,000 in early January 2025 and the remainder of the award in February 2025 upon completion of deliverables. Awards are compensation of a student's time and effort; supplies/equipment purchases are prohibited. Terms and conditions vary by type of institution.

Community College Student Requirements

- White paper (5-7 pages, excluding title page, references, and appendices)
- Outline
- Midway Meetup (virtual)
- \$3,000 per student award

4-Year Institution Student Requirements

- White paper (8-10 pages, excluding title page, references, and appendices)
- Outline
- Midway Meetup (virtual)
- \$4,000 per student award

Student Symposium

Students are strongly encouraged to attend the Student Symposium, Friday, February 14, 2025.

Duration

STARR awards are a one-time, non-renewable award. All work must be completed by February 14, 2025.

Number of Awards to be Funded

Number of awards may vary by institution type; total dollar amount of awards not to exceed \$40,000.

Equal Opportunity and Diversity

Students from underserved groups and groups underrepresented in STEM fields, specifically Native American, African American, Latino, Hispanic, and Pacific Islander, women, persons with disabilities, first-generation students, students from rural communities, and students in the LGBTQ+ community are strongly encouraged to apply. OSGC seeks to recruit applicants from a variety of higher-education member institutions and disciplines.

Restrictions

STARR is a research review program—students will not be conducting research of any kind and will not need access to onsite resources.

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.

DATES AND DEADLINES: APPLICATION PROCESS

- Application Deadline: **Wednesday, December 4, 2024**
- NASA Gateway Profile Form: **Wednesday, December 4, 2024**
- Student Profile Form: **Wednesday, December 4, 2024**
- Letter of Recommendation (optional) Due: **Friday, December 6, 2024**
- Award Selections: No later than **Wednesday, December 18, 2024**
- Award Disbursements: **January 2025** and **February 2025**

ELIGIBILITY

STARR awards are open to students who meet the following eligibility criteria:

Community Colleges

- Student must be a U.S. Citizen.
- Student must maintain good academic standing.
- Student is enrolled in a minimum of 6 credit hours per term in **STEM-related coursework** at an OSGC-affiliated community college at the time of application and remains enrolled for the duration of the award (through spring 2025). Student may be dual-enrolled in an OSGC-affiliated community college and 4-year institution through the duration of the award.
- For community college STEM students not currently enrolled in STEM-related coursework, supplemental information may be provided, including but not limited to:
 - Documentation declaring a STEM-related major or degree path.
 - Documentation of degree plan provided by academic advisor (general or degree-specific), which includes STEM-related coursework.
 - Letter of recommendation from past STEM faculty member or mentor.

Please discuss options with your OSGC affiliate representative to ensure criteria are adequately met.

4-Year Institutions

- Student must be a U.S. Citizen.
- Student must maintain good academic standing.
- Student is enrolled in a minimum of 6 credit hours per term at an OSGC-affiliated 4-year institution at the time of application and remains enrolled for the duration of the award (through spring 2025).
- Student is enrolled in undergraduate STEM or STEM education coursework, or a preservice teacher education program during the 2024-25 academic year.

Go to <https://spacegrant.oregonstate.edu/members-oregon-nasa-space-grant-consortium> for a list of OSGC Member Institutions and Representatives.

APPLICATION REQUIREMENTS AND FORMAT GUIDELINES

Application packets for the STARR awards must include the following:

- Letter of Intent
- Student Resume
- Project Description
- Faculty Advisor Statement of Support
- Letter of Recommendation (optional)
- Academic Transcript
- Submission of a [NASA STEM Gateway Profile](#) Form
- Submission of a [Student Profile Form](#) (forms are program specific and you will need to complete a new form even if you have received an award from OSGC in the past)

Documents are to 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. Students will submit application packets online. Sections must be labeled.

Letter of Intent (Page limit: 1 page)

Includes the following:

- Describe the Plan of Study for your STEM academic goals throughout your program.
- Express your interest in and commitment to a space science/aerospace related career.
- Briefly describe your skill sets and qualifications in context of this opportunity.
- Describe how this opportunity would benefit you and contribute to your academic and career goals/objectives.

Student Resume (Page limit: 1 page)

Include relevant employment, education, and extra-curricular activities. Resume should include current contact information including email, phone, and mailing address.

Project Description (Page limit: 1 page)

Includes the following:

- Present the research topic you have selected to review and provide an overview of the topic. Include why you are interested in evaluating the current knowledge base of this particular subject.
- State how the topic substantively aligns with one or more of NASA Mission Directorate’s top priorities and/or how it speaks to a specific challenge facing one of NASA’s current missions or area of emphasis.

Topics should be specific and narrow in scope. Students are expected to refer to *Appendix A. Agency Information and Strategic Framework*.

Note: If selected for a STARR award, students will conduct a research review of the chosen topic and elaborate on how it aligns with NASA’s top priorities and/or how it speaks to the challenges facing NASA’s missions. Students should be prepared to offer insight into the contributions of the research and demonstrate interdisciplinary applications and how the research could potentially extend to other areas of science or engineering relating to NASA’s top priorities and areas of emphasis.

Faculty Advisor Statement of Support (Page limit: 1 page)

STARR applicants must identify a faculty member at their respective institution with expertise relevant to the research being reviewed and who agrees to serve as faculty advisor on the project. The advisor must be willing to provide guidance and mentorship throughout the process, participate in regularly scheduled check-ins with the student and the Midway Meetup, and review/edit the student’s work prior to submitting deliverables. The selected faculty advisor must provide a Statement of Support acknowledging their role and expectations as advisor for the project. The Statement of Support is to be included in the online application packet submitted by the student. **The Statement of Support does not serve as a letter of recommendation.**

Advisors must be affiliated with an OSGC member institution; OSGC affiliate representatives may serve as faculty advisor on a project. Affiliate representatives may assist students in identifying a faculty member who has expertise relevant to a project.

Letter of Recommendation – Optional (Page limit: 2 pages)

One letter of recommendation is optional. If provided, the letter should specifically address the student’s qualifications and merit for receiving a STARR Award. Students will be asked to provide contact information for the person providing a letter of recommendation. Upon submission of your application, this individual will receive an email request for the letter. The letter of recommendation will be due shortly after the student application is due.

Academic Transcript (Page limit: As needed)

A PDF of your academic transcript must be submitted with your online application. Unofficial transcripts from your college or university website are acceptable and should include record of the courses in which you are currently enrolled.

NASA STEM Gateway Profile

A NASA STEM Gateway Profile must be submitted no later than Wednesday, December 4, 2024 for your application to be considered for funding. Go to <https://stemgateway.nasa.gov/s/> and complete the following steps 1) Click on *Create a Customized Profile*, 2) Under the blue Log in bar, click on *Not a Member?*, and 3) Under Active Student, click on *Click Here to Register*.

Student Profile Form

Complete an online confidential Student Profile Form no later than Wednesday, December 4, 2024 for your application to be considered for funding. Go to <https://spacegrant.net/forms/?form=osgc3>—select *STARR* under the Program drop-down menu. This information is used for reporting to NASA’s Office of STEM Engagement and for longitudinal tracking purposes to evaluate the effectiveness of NASA’s higher education programs. For reporting purposes, we may also make future requests for updates to your contact information, student/employment status, and educational/professional accomplishments.

Online Application

Complete application packets will be submitted online:

- Community college student applications: <https://spacegrant.net/apps/ors2>
- 4-Year institution student applications: <https://spacegrant.net/apps/ors1>

FACULTY ADVISORS/MENTOR INFORMATION

Faculty advisors are expected to have expertise relevant to the research being reviewed and be willing and able to contribute insight and perspective to a project. Advisors must be willing to mentor the student by providing guidance throughout the process and review/edit the student’s work prior to the student submitting deliverables, keeping in mind white papers must be original work of the student. Advisors are encouraged to help students understand the components of research and research review—evaluation of the current knowledge base for the specified topic. Faculty advisors should be prepared to participate in regularly scheduled check-ins with the student to maintain progress and make certain that milestones are met and deliverables are submitted on time. Advisors should plan to participate in the Midway Meetup.

Advisors must be affiliated with an OSGC member institution; OSGC affiliate representatives may also serve as faculty advisor on a project. Faculty advisors are required to provide a Statement of Support to be included in the student’s online application submission.

REVIEW AND SELECTION PROCESS

Applications are evaluated for eligibility when received. Qualified applications will be reviewed based on the following review criteria:

Review Criteria

- Academic achievement
- Strength of Letter of Intent
- STEM-related Plan of Study
- Demonstration of Space Science/Aerospace related career goals

- Selected research review topic is in alignment with one or more of NASA Mission Directorate’s top priorities and/or speaks to the challenges facing the execution of a current mission or area of emphasis.
- Strength of faculty support

DATES AND DEADLINES: DELIVERABLES

- Midway Meetup: **Friday, January 17, 2025**
- Outline Due: **Friday, January 31, 2025**
- White Paper Due: **Friday, February 14, 2025**

DELIVERABLES IF AWARDED

More detailed information pertaining to the following deliverables will be communicated directly with students who are selected to receive a STARR award.

Midway Meetup

OSGC will host an online, virtual check-in for STARR recipients and mentors midway through the project. Participants will meet to discuss progress, solicit feedback, bounce ideas, ask questions, and share hurdles and solutions with fellow STARRs and mentors. OSGC leadership will facilitate the meeting and be available to answer questions related to deliverables. The Midway Meetup will be held on Friday, January 17, 2025.

Descriptive Outline

STARR recipients are required to submit a descriptive outline of the project prior to the white paper due date. Descriptive outlines include introduction, main body, and conclusion and are limited to 2 pages.

White Paper

Students selected to receive STARR awards are required to write an original white paper describing the findings of the research review—overview, summary, and evaluation or critique of the current knowledge base of the selected topic, how it aligns with one or more of NASA Mission Directorate’s top priorities, and/or how it speaks to the challenges facing the execution of current NASA missions. Students must include insight into the contributions of the research being conducted and demonstrate interdisciplinary applications of the research and how it might potentially extend to other areas of science and/or engineering relating to NASA’s top priorities and areas of emphasis.

Students will **NOT** be conducting hands-on or original research and will not need access to onsite resources. Faculty advisors are encouraged to review the paper and offer guidance and edits, but white papers must ultimately be the original work of the student; plagiarism results in loss of award.

Community College Students

- White paper must be 5-7 pages, excluding title page, references, and appendices

4-Year Institution Students

- White paper must be 8-10 pages, excluding title page, references, and appendices

Contact Information

The student agrees to notify OSGC of any changes in mailing address, email, and telephone number for contact purposes.

Information Release

The student grants permission to release and/or publish requested recipient information to NASA or other appropriate parties.

FOR MORE INFORMATION

Direct questions to Monty Johnson, OSGC Program Manager, monty.johnson@oregonstate.edu.

Visit the Oregon Space Grant Consortium website: <http://spacegrant.oregonstate.edu>.

STARR Award Program details: <https://spacegrant.oregonstate.edu/undergraduate-award-program-student-academic-research-review-starr>

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 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 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.

View the [NASA 2022 Strategic Plan](#)

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>.