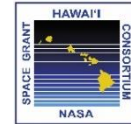


HAWAI'I SPACE GRANT CONSORTIUM



NASA SPACE GRANT UNDERGRADUATE UNIVERSITY RESEARCH INTERNSHIP

University of Hawai'i at Mānoa, Hilo, and Maui College
(For Spring and Fall Applicants)



PROGRAM DESCRIPTION

The Hawai'i Space Grant Consortium (HSGC), as a participant in the National Space Grant College and Fellowship Program, invites applicants for an HSGC University Research Internship (URI) to support original research projects in the fields relevant to NASA's goals as defined in its current strategic plan. The program expands opportunities for U.S. citizens to participate in NASA's aeronautics and space programs by supporting and enhancing science and engineering education, research, and outreach programs.

Fields relevant to NASA's goals are mainly those in science, technology, and education focused on understanding the Earth, exploring the Solar System and the universe beyond, creating more secure, efficient, and environmentally friendly air transportation systems, inspiring students to pursue careers in science, mathematics, engineering, and technology, and engaging the public in shaping and sharing the experience of exploration and discovery.

HSGC welcomes student research projects with topics that align with individual senior projects or individual undergraduate theses. Students engaged in group senior design or research projects can also be supported when their proposed HSGC project significantly exceeds the minimum academic/course project requirements. Individual HSGC research internship applications are encouraged. Group applications are recommended for coordinated proposals of three or more students. Applications from women, under-represented student groups, and physically challenged students who have interest in space-related fields are particularly encouraged. Please provide the information requested on the HSGC URI cover sheet when applicable.

INTERNSHIP AWARDS

An HSGC URI award can have the following forms:

- (1) a one-semester research internship at \$5,000, extending into a second semester for a total of \$10,000 per year, OR
- (2) a one-semester trainee internship at \$2,500, extending into a second semester for a total of \$5,000 per year, OR
- (3) a one-semester trainee internship at \$2,500 extending into a second semester research internship at \$5,000 for a total of \$ 7,500 per year.
- (4) Group Research Internships are available for one-semester at \$2,500 per group member, extending into a second semester for a total of \$5,000 per group member per year.
- (5) Additional support for travel and supply reimbursements are available. Individual research interns can receive a budget of up to \$1000 per semester for travel and supply expendables. Individual trainee interns or each group research intern can receive a budget of up to \$500 per semester for travel and supply expendables.

HSGC URI awards will be based on the goals of the proposed research training and/or the quality of proposed research/study, appropriateness of proposed research to NASA's goals, and feasibility of proposed research/study within the planned academic time frame, and the academic qualifications of the student.

Successful candidates will be designated HSGC URI students and will:

- Be provided training and mentoring on their projects during the semester.
- Receive stipends and additional funds for travel and/or supplies.
- Commit adequate time for training and research.
 - *Research internship*: 160 hours per semester (10 – 15 hours per semester week)
 - *Group research internship*: 80 hours per semester (5 – 10 hours per semester week)
 - *Trainee internship*: 80 hours per semester (5 – 10 hours per semester week)
- Provide information about received financial aid, studies, employment, and future accomplishments as requested.
- Submit mid-semester, end of semester and final progress reports describing their work and accomplishments.
- Give a project poster or oral presentation each semester at the HSGC URI Symposium.
- Contributions to professional conferences, abstracts, presentations and publications must be reported.

Due to the Financial Aid Office's new policies, students under financial aid may be required to give back a portion of their stipend to UH. Please contact the campus Financial Aid Office for more information. UH will also report the funds you receive for your internship. Please keep track of your allocations received, as they may be taxable.

ELIGIBILITY

Eligible applicants must be: 1) Citizens of the United States. 2) Full-time undergraduates (at least 12 credits per semester) at the University of Hawai'i at Mānoa, Hilo, or Maui College. 3) Sponsored by a mentor who is willing to guide the student for the duration of the award. *Note: Most mentors are faculty at the University but senior researchers or other qualified personnel at UH or elsewhere are eligible.*

DEADLINE

HSGC URI applications must be submitted by:

- June 15th to start in the Fall semester
- December 1st to start in the Spring semester

NOTE: If the date is on a weekend, the deadline will be the following Monday.

APPLICATION & QUESTIONS

Visit our website:

<http://www.spacegrant.hawaii.edu/index.php/uri/>

For additional information, please call us at (808) 956-3138 or email us at hsgc@spacegrant.hawaii.edu.

APPLICATION PROCEDURE

I. TO BE PREPARED BY THE APPLICANT AND SUBMITTED BY RESPECTIVE DEADLINE

- 1) Cover Page, fully completed (pages 6 & 7)
Fillable form available from the HSGC URI page. (Website link is on the previous page.)
- 2) Abstract (1 page)
- 3) Research/Study Proposal (minimum 4 pages)
- 4) Request for Travel/Supplies Funds (1 page)
- 5) Student's Resume (1 page or less)
- 6) *Official Transcripts & Letter of Recommendation (Note: To be sent independently to the HSGC Office)
- Instructions on page 3

I.1 Cover Page

The cover page form is included with this packet and must be completed by the applicant. Please be sure to include all the information requested, including the **signatures of the applicant, proposed advisor/mentor, and mentor's department chair.**

I.2 Abstract

A one-paragraph summary of the proposal should be prepared, highlighting the relevance of the proposed work to NASA's goals. Refer to I.3 for instructions related to current NASA Strategic Plan.

I.3 Research/Study Proposal – Plan of Work

The proposed mentor should guide the student in the preparation of this proposal, and the role that the mentor will play in the subsequent studies should be identified. In cases where two students are applying to work on closely related topics, it is essential that each proposal contains separate tasks and goals. Students can work on separate research internships with the same mentor when the research topics are coordinated but do not overlap significantly. The separate HSGC research internship applications must clearly indicate the differences in research progress, timeline, and outcomes.

Research group applications are encouraged when three or more students are working together on a coordinated research project or topic. The joint HSGC group research internship proposal must clearly outline specific research tasks for each group member and provide coordinated milestones, timelines, and outcomes. If research group members intend to complete a senior research or design project for credit in the same area and at the same time as the HSGC group project, their contribution must exceed the class credit requirements significantly.

All proposals must include one or two paragraphs showing how the proposed study is relevant to the goals listed in the current **NASA Strategic Plan** (Details provided at the link available from the HSGC URI page <http://www.spacegrant.hawaii.edu/uri.html>).

Research Internship: The core of the application is a well-formulated proposal describing the proposed research work, its goals, and relation to previous research performed at the University of Hawai'i and elsewhere. The proposal should be four to five typed, double-spaced pages in length, and shall identify and discuss the key elements of the proposed research, objectives, and methods to perform the research. It must include a time flowchart showing when the student expects each component of the project to be carried out. Group research proposals should follow the same guidelines,

only that the research tasks for each student must be described and a coordinated/combined timeline for all tasks must be provided. The proposal page limit depends on the number of group participant but should not exceed twelve double-spaced pages in length for large groups.

Trainee Internship: A two-page application should describe the nature of the research education and training to be completed during the trainee’s internship. It should indicate where the training will be completed and how the training will benefit the student’s education and career. The advisor/mentor should assist the student in completing the application. It must include a time flow-chart showing when the student expects each component of the project to be carried out.

I.4 Request for Travel/Supplies Funds

Beyond the stipend, additional resources are available for research and trainee internship projects each semester. Students who wish to obtain these resources must complete a request form providing a brief justification for the use of such funds. Funds are generated based on a reimbursable process.

Research Internship: \$1000 per semester for individual internships or \$500 per semester per group member for group research projects are available to purchase supplies and to support inter-island travel expenses related to the space grant project. Requests to attend a scientific meeting in the continental U.S. to present results of the space grant project is also permissible.

Trainee Internship: \$500 per semester are available for the purchase of supplies.

I.5 Student’s Resume

The resume should reflect a short (1 page or less) summary of the applicant’s career interests and accomplishments.

II. TO BE SENT INDEPENDENTLY TO THE HSGC OFFICE

In addition, the following items are required and should be sent directly to the Hawai’i Space Grant Consortium (HSGC) office [not given to the student] to be received by the relevant deadline. **An application is not complete until the following materials are received.**

1) Transcript

Each student should arrange to have original transcripts of all college-level work sent to the Hawai’i Space Grant Consortium (HSGC) office, Attn: University Research Internships (see website for address).

Note: Unofficial transcripts are acceptable only if the student has applied for the program in the past.

2) Letter of Recommendation

The proposed mentor or reference must provide a letter of recommendation commenting on the acceptability of the student or group research interns for the program and the nature of any past experience with the student or group research interns. It should also contain a clear statement of the advisor’s willingness to supervise the student or the group research interns.

III. SUBMISSION

III.1 Initial Application

Applications are due by June 15 for URI applicants beginning in the Fall semester, or December 1 for the Spring semester. If the due date (June 15 or December 1) is on a Saturday or Sunday, applications will be accepted the following Monday. The original application and supporting materials should be submitted by these deadlines to the locations listed in the table below. Accepted applicants will be notified by an HSGC staff.

| | | |
|---|--------------------|---|
| <p>An electronic copy of the application with signatures on the cover page and a complete electronic copy of the proposal should be sent to the HSGC Office at hsgc@spacegrant.hawaii.edu. Submission required by June 15th for the Fall semester or December 1st for the Spring semester. <i>Note: If the above dates fall on a weekend, the deadline is the following Monday.</i></p> | | |
| Associate Director(s) | Institution | Delivery Location |
| HSGC Office | Mānoa | POST Building, Room 501 |
| TBA | Hilo | N/A |
| Dr. Jung Park | Maui | Electronics & Mathematics ‘Ike Le’a 143 |
| <p>Applications can also be mailed to their addresses before the deadline. Please go to our Personnel webpage on our HSGC website for campus addresses (http://www.spacegrant.hawaii.edu/index.php/about/#personnel).</p> | | |

III.2 Extension

Requests for extensions of a research or trainee internship project for a second semester should be submitted to the HSGC office by June 15 for work continuing in the Fall semester and December 1 for the Spring semester. The extension process varies for Research and Trainee Internships, please see below. **Note: Unofficial transcripts may be requested if the student's academic grades are affected by the program.*

Research Internship: The extension report form must be completed and signed. The form should be attached to the mandatory end of semester progress report (three to four pages). The progress report should include the research and training scope for the extension and a time flowchart showing when the student expects each component of the extended project to be carried out. The process for group research internship is the same.

Requests for a third semester of support for a research internship can be considered if the proposed research project is distinctly different from that previously funded. Research interns applying for a third semester of funding should submit a final written report at the end of their second semester with a detailed summary of the results and conclusions from the first two semesters' work. In addition, they must complete a full application form for a new research internship project (see I.3) to be completed during the third semester. Support for more than three research internship semesters is not available.

Trainee Internship: The extension request for trainee internships is the same for the initial application (see I.3) except those transcripts and letters of recommendation are not required. The extension request form must be completed and signed along with a report (two to three pages) where the student summarize their accomplishments during the first semester and their plans for the second semester. Support for more than two trainee internship semesters is not available however, trainee interns that have already received two semesters of support are eligible to apply for a Research Internship.

III.3 Inquiries

Questions concerning the preparation & submission of applications and the administration of the HSGC URI should be addressed to the appropriate Associate Director of the institution. Refer to table on Page 3. We advise that students and mentors contact the Associate Director prior to the submission of the proposal to ascertain the appropriateness of the intended project.

IV. RESPONSIBILITIES OF THE STUDENT

IV.1 Final Reports

Research Internship: Students or group research interns are required to briefly summarize their progress in a mid-semester report (to be signed by their mentor) to document progress towards research goals and the schedule outlined in the student's proposal. At the end of the semester, Research Internship students or research internship groups on their second semester of funding or completing their project should submit a final report describing their accomplishments. This report must be six to eight pages in length and include results of the student's research and note, if applicable, presentations made, papers published, or relevant activities attended. An electronic copy (word doc format) of the report should be sent to the HSGC office email address (hsgc@higp.hawaii.edu). The quality of the Research Internship final report must be adequate to be included in the University Research Internship Final Report volume. Students who are funded to work simultaneously on closely related topics must give separate oral presentations and submit separate progress and final reports.

Trainee Internship: Students must have their mentor complete a form at the middle of the semester describing their progress. At the end of the semester, the Trainee Internship student is required to write at least a four-page report explaining what was done, what was learned, how the work relates to NASA's goals, and how it might help their future career.

IV.2 Symposium

All funded students are required to attend the Undergraduate HSGC URI Symposium, which is held towards the end of both the Spring and Fall semesters and must give an oral (Research Internship) or poster (Trainee Internship) presentation on their project.

In addition, all students are required to complete a simple online form that tracks the student's progress after graduation and a questionnaire on their Research and Trainee Internship experience. Progress of HSGC URI students after completion of the program is included in our annual report to NASA. Responses to the questionnaire assist in improving the HSGC URI.

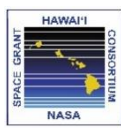
V. EVALUATION AND RESPONSIBILITY OF MENTORS

Evaluation of HSGC URI student success and HSGC program effectiveness will begin to include indicators that go beyond the internal assessment tools of progress reports and final reports. Many of the indicators that HSGC intends to collect are already available and part of the regular outcomes of student/mentor research project work. As some of the indicators such as publications may only be completed after the end of an HSGC internship, we would follow up with mentors for up to two years after the end of the internship to obtain the information. The following list includes some common indicators:

- Acknowledgement of HSGC intern contribution to a published paper
- Co-authorship of HSGC intern on a published paper
- Co-authorship of HSGC intern on a conference abstract and/or presentation (oral or poster)
- First authorship/presenter of HSGC intern on a conference abstract and/or presentation (oral or poster)
- Presentation of a paper by HSGC intern at undergraduate research conference other than the HSGC Research Internship Symposium (examples of an undergraduate research conference other than the HSGC URI Symposium are listed below)
 - UHM campus Undergraduate Showcase and the UHM SURE Symposium
 - Competitive regional and national undergraduate symposia
 - Examples of relevant regular topical conferences in earth and planetary science related fields:
 - Lunar and Planetary Science Conference
 - AGU and GSA conferences
 - Annual Meeting of the Meteoritical Society
 - Annual Small Satellite Conference
 - Conferences in all other topical areas of HSGC student engagement, including astronomy, math and computer science, engineering etc.
- Participation and/or placement in a group competition

To obtain information on student success indicators that are not (yet) included in the HSGC URI final report, the HSGC office will contact participating mentors one year and two years after the completion of the research project's final report for updates.

***NASA Logo - Disclaimer statement: "The material contained in this document is based upon work supported by a National Aeronautics and Space Administration (NASA) grant or cooperative agreement. Any opinions, findings, conclusions or recommendations expressed in this material are those of the author and do not necessarily reflect the views of NASA."**



**University of Hawai'i - Hawai'i Space Grant Consortium
NASA Space Grant Undergraduate
University Research Internships
Application Cover Page**

PROPOSAL DUE BY
June 15th – Fall
December 1st – Spring
For U.S. Citizens only

Applying for:
 URI Research
 URI Trainee
 "Group" RI

Applicant Information

| | | |
|---|---|--|
| Student Full Name: | | |
| <i>Last</i> | <i>First</i> | <i>M.I.</i> |
| Date of Birth: | Age: | Gender: <input type="checkbox"/> <input type="checkbox"/> |
| <i>Month/Day/Year</i> | | <i>Male Female</i> |
| Current Address: | | |
| <i>Street Address</i> | | <i>Apartment/Unit #</i> |
| <i>City</i> | | <i>State ZIP Code</i> |
| Permanent Address: | | |
| <i>If different from above (current address), or residency is not in the State of Hawai'i</i> | | |
| Phone: | | Email: |
| University of Hawai'i Campus: | Current Undergrad. Academic Standing: | Current Cumulative GPA: |
| <input type="checkbox"/> Mānoa <input type="checkbox"/> Hilo <input type="checkbox"/> Maui | <input type="checkbox"/> Freshman <input type="checkbox"/> Sophomore <input type="checkbox"/> Junior <input type="checkbox"/> Senior | |
| Major: | Minor: | Expected Graduation Date: |
| | | <i>Month/Year</i> |

Proposal

| | |
|---------------------------------|--|
| Title of Proposed Study: | Proposed Semester(s): |
| | <i>Term/Year</i> |
| Proposed Mentor: | Dept./Office: |
| <i>Print Name</i> | <i>Dept./Bldg., Room No.</i> |
| Mentor's Contact: | |
| <i>Phone Ext.</i> | <i>Email Address</i> |
| Mentor's Dept. Chair: | |
| <i>Print Name</i> | <i>Phone Ext. Bldg., Room No.</i> |

Have you participated in any Space Grant programs before? If so, please list your involvement(s):

IMPORTANT: Please complete and attach this cover sheet to the proposal with other required application material as described in the instructions.