



UWW ORSP DEADLINE: 10 FEBRUARY 2012

## WISCONSIN SPACE GRANT CONSORTIUM HIGHER EDUCATION PROGRAM

# INTRAMURAL GRANT APPLICATION PACKAGE

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**University of Wisconsin-Whitewater Office of Research and Sponsored Programs Intramural Transmittal Form.** ONE original, complete ORSP Transmittal Form including all relevant funding competition information, proposal information, required clearances, and required signatures must accompany each proposal submitted to ORSP.

X

**Proposal Development and Submission Instructions.** Each University of Wisconsin grant program has varying proposal development and submission requirements. Principal Investigators must review this application package carefully and adhere to specific program requirements to be competitive.

X

**Grant Program Forms.** Each University of Wisconsin grant program requires the submission of different forms. All relevant forms are included in this application package. Electronic versions of all forms can be accessed on the ORSP Funding Page (<http://www.uwworsp.org/media/funding.htm>).

X

**Additional Proposal Development and Submission Resources.** University of Wisconsin grant application packages may include additional resource information including evaluation/review criteria, description of proposal review processes and deadlines, and other pertinent appendices.

*The Office of Research and Sponsored Programs can provide additional information, proposal development assistance, and copies of funded proposals. ALL proposals must be submitted to ORSP. Grants submitted to directly to System or Extension may not be reviewed.*

DENISE EHLEN, Director, 262-472-5212, ehlend@uww.edu  
RON FLEISCHMANN, Acting Assistant Director, 262-472-5212, fleischr@uww.edu





UNIVERSITY OF WISCONSIN  
WHITewater

RSP APPROVAL & CERTIFICATION  
TRANSMITTAL



DO NOT COMPLETE SHADED SECTIONS WITH DOUBLED BORDER – FOR UWW RSP USE ONLY

<b>FUNDING COMPETITION INFORMATION</b> Deadline:		<b>RSP USE ONLY</b>		ID:
1. Sponsor & Program:		Date Submitted:		
2. Address:		Number of Copies to Sponsor (original +)		
3. Telephone:	Fax:	Binding of Original: <input type="checkbox"/> Clip <input type="checkbox"/> Staple <input type="checkbox"/> Other <input type="checkbox"/> N/A		
4. Web:	Notes:	GT Proposal Entry:		GT Award:
<b>PROPOSAL INFORMATION</b>				
5. Principal Investigator:		5a. Department/Division/Institution:		
5b. Address:		Phone:	Fax:	Email:
6. Co-Investigator:		6a. Department/Division/Institution:		
6b. Address:		Phone:	Fax:	Email:
7. Co-Investigator:		7a. Department/Division/Institution:		
7b. Address:		Phone:	Fax:	Email:
8. Co-Investigator:		8a. Department/Division/Institution:		
8b. Address:		Phone:	Fax:	Email:
9. Project Title:				
10. Funding Type <input type="checkbox"/> New <input type="checkbox"/> Renewal/Continuation		<b>AWARD INFORMATION – RSP USE ONLY</b> <input type="checkbox"/> GRANT <input type="checkbox"/> CONTRACT		
11. Total Request \$		New Account <input type="checkbox"/> Non-Federal <input type="checkbox"/> Federal (CFDA# )		
12. Match Information \$		Org Information <input type="checkbox"/> New <input type="checkbox"/> Add To		
13. Begin Date End Date		Total Award Begin Date End Date		
<b>REQUIRED CLEARANCES – Does the project involve:</b>				
14. toxic, infectious or carcinogenic/mutagenic material? Use recombinant DNA technology?			Approved? (choose one)	
15. use of human subjects, human tissue or vertebrate animals?			<input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> Pending	
16. action involving space, remodeling, or construction?			<input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> Pending	
17. hiring non-UWW personnel?			<input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> Pending	
18. requires release time by PI (and/or Co-Is) in support of project activities?			<input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> Pending	
19. creation of new degree programs or services?			<input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> Pending	
20. potential environmental impacts, which require review under the Wisconsin Environmental Policy Act?			<input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> Pending	
<b>REQUIRED SIGNATURES</b>				
<b>PRINCIPAL INVESTIGATOR/PROJECT DIRECTOR</b>		<b>SIGNATURE</b>		<b>DATE</b>
I certify that the plan detailed in the proposal/contract complies with all campus, state, and federal regulations and policies and reflects University, College/Division, and Department/Unit goals. This project is achievable as described, including the limitations of time, resources, and personnel expertise. All required clearances have been satisfied. I have disclosed any possible conflicts of interest during the proposal development process. If awarded, I agree to conduct the proposed project in compliance with (1) the conditions of the grant and (2) with all policies of UWW, UWS, and the State of Wisconsin.				
I authorize the use of my name and grant information for university publication. <input type="checkbox"/> NO <input type="checkbox"/> YES (initial)				
<b>DEPARTMENT CHAIR/UNIT DIRECTOR</b>		<b>SIGNATURE</b>		<b>DATE</b>
I certify that I have reviewed the proposal/contract and found it to be complete, including required clearances, budget, and commitments involving space, faculty/staff time, and matching funds. In addition, I certify that all resources and other provisions of any award will be fulfilled. A match (check one) <input type="checkbox"/> has OR <input type="checkbox"/> has NOT been pledged. Cash match will be satisfied by a transfer of funds from org code _____-_____ in the amount of \$_____ or via in-kind contributions as described in the budget (narrative).				
<b>COLLEGE DEAN/DIVISION DIRECTOR(S)</b>		<b>SIGNATURE</b>		<b>DATE</b>
I certify that I have reviewed the proposal/contract and found it to be complete, including required clearances, budget, and commitments involving space, faculty/staff time, and matching funds. In addition, I certify that all resources and other provisions of any award will be fulfilled. A match (check one) <input type="checkbox"/> has OR <input type="checkbox"/> has NOT been pledged. Cash match will be satisfied by a transfer of funds from org code _____-_____ in the amount of \$_____ or via in-kind contributions as described in the budget (narrative).				
<i>Applicants submitting proposals including an international component must secure the signature of the Director of the Center for Global Education in this cell.</i>				
<b>RESEARCH AND SPONSORED PROGRAMS CERTIFICATION</b>		<b>SIGNATURE</b>		<b>DATE</b>
By signing this transmittal, I certify that this proposal/contract is consistent with campus, state, and federal regulations; is within the campus' research/service mission; and is approved for submission to the funding agency.				
INITIAL HERE TO APPROVE GRANT/CONTRACT ACCEPTANCE:		DATE:		TYPED NAME: DENISE EHLEN

WISCONSIN SPACE GRANT CONSORTIUM  
*HIGHER EDUCATION PROGRAM*

**SPECIAL NOTES**

Wisconsin Space Grant Consortium requires a minimum 1:1 match for the Higher Education Program.

Applicants to WSGC Programs are encouraged to coordinate proposal development with the UW-Whitewater WSGC Advisory Board Representative Rex Hanger ([hanger@uww.edu](mailto:hanger@uww.edu), x5258).

The Office of Research and Sponsored Programs will assist applicants with proposal submission using the sponsor's web-based proposal submission system.

Contact Denise Ehlen ([ehlend@uww.edu](mailto:ehlend@uww.edu), x5212) with additional questions.

## Higher Education Program Request for Proposals 2012-2013

**Application Deadline: February 17, 2012**  
**Award Announcements: April 13, 2012**

### **Purpose:**

The Wisconsin Space Grant Consortium invites proposals for value-added, higher education teaching/training projects related to any space or aerospace discipline. This is a seed-grant program for undergraduate education projects which support the most innovative ideas on how to increase the space and aerospace content of undergraduate university and college offerings.

### **Awards:**

Grants up to \$8,000\* are available. WSGC will not fund overhead; however, it may be counted as institutional match. Proposals for two-year projects will be considered.\* Proposals for two-year projects should include budgets and objectives for each year.

\*Based on availability of funds.

### **Requirements:**

- U.S. Citizen
- All WSGC affiliate member universities or colleges (see listing below) are eligible. Industry, nonprofit associations, and nonmembers can propose programs and work jointly with one of our academic members, providing the educational activity occurs at a member campus (e.g., visiting lectureship, an extension course, nonprofit group offering).
- A 1:1 match is required.
- Any higher education project intended for education and/or training of undergraduate students, with an emphasis on faculty enhancement and curriculum development in undergraduate education is eligible.
- Programs should have an emphasis on space sciences, aerospace engineering, or any other space-related discipline or interdisciplinary field.
- Preference will be given to proposals with NASA Exploration System Mission Directorate (ESMD) Systems Engineering emphasis.

### **Questions about Higher Education? contact:**

John Borg  
Associate Director for Higher Education  
Marquette University  
Phone: 414-288-7519  
Fax: 414-288-7790  
E-mail: [john.borg@marquette.edu](mailto:john.borg@marquette.edu)

## Higher Education Program Proposal Requirements

Please combine your proposal into a single file and label each section clearly using the requested category below. You will be asked to upload the file at the bottom of the application form. It should not exceed 4 pages, including figures.

### **1. Introduction/Summary:**

Summarize your project in one page or less. Important issues to address here and in the body of the proposal are how this project will provide curriculum development, faculty enhancement, or in any other way provide training for undergraduates in the space sciences, aerospace engineering, or other space-related discipline.

### **2. Background:**

Summarize the current and previous research on the topic to be covered by the grant and indicate its importance to the field. Also, NASA guidelines require that every proposal demonstrate how the proposed activities align with the goals and objectives of one or more mission Directorate or NASA Center goals. Provide references of related work. Be aware that not all of the WSGC review panel members are likely to be experts in your area, so make sure you provide fundamental information on your topic.

### **3. Proposed Activities:**

Describe

- Purpose – include audience, educational objectives
- Method – what activity(ies) will be included
- Expected Outcomes – anticipated value, added benefits

Again, be sure to provide fundamental information on your project. The proposed project should provide value-added, higher education teaching or training in an innovative way, and the proposal should document how these goals will be achieved. It is important to note that it is expected that faculty spend considerable time updating courses as a normal part of their duties. Proposed work falling under the purview of normal course development or improvement is unlikely to be funded.

### **4. Evaluation Plan:**

Provide a brief self-evaluation plan, including how the program will be continued after WSGC funds are no longer available.

### **5. Time Line/Schedule:**

Please provide dates when you will start the project, when you will finish the project, and any important milestones. You will be required to submit an Interim Report and a Final Report.

### **6. Budget:**

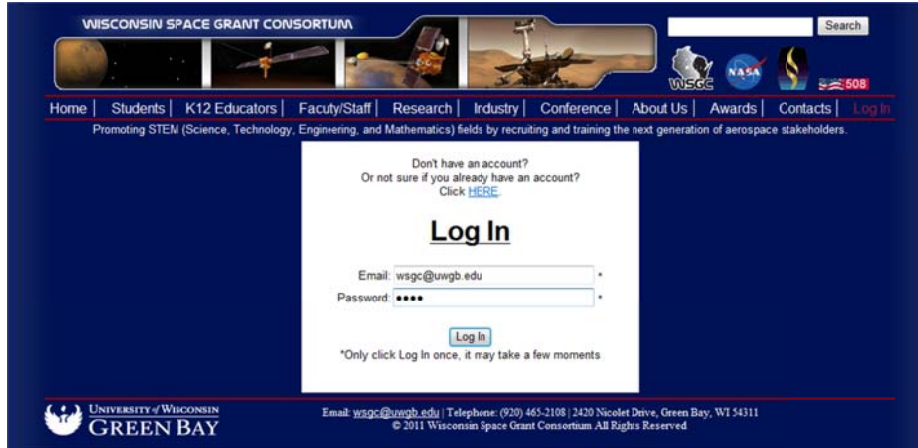
You need to provide a budget summary for your proposal that shows labor (people, hours, rates and total), travel details (where, transportation costs, hotel costs, meal costs) and any other costs (with equivalent detail). The Higher Education program normally will provide funding for labor, including your collaborators and students. Travel will be considered if it is fundamentally important to your project. Out of country travel cannot be funded. You also need to indicate matching funds and the source (overhead, equipment, labor) with similar detail. Also note that your organization is required to provide matching funds of at least 1:1 to your budget. Any institutional overhead must be applied as matching funds. Given budget limitations, we will likely not support any amount for equipment or rental of facilities. We highly recommend you find alternative means to purchase equipment or materials needed for your project and apply them as matching funds. Call the WSGC Program Office (920)465-2108 if you would like help in this matter.

### **7. Personnel:**

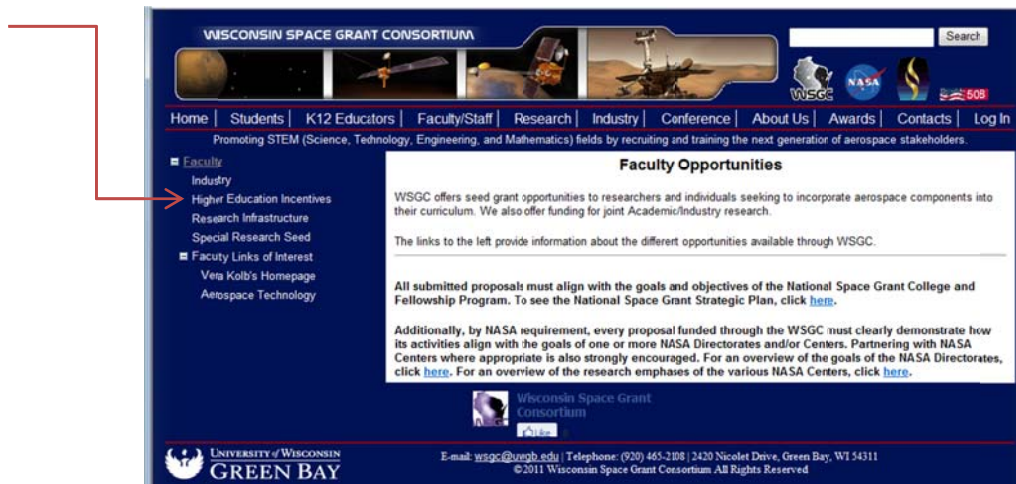
Include brief qualifications for any personnel included in projects.

# Applying to: Higher Education Incentives

1. Login with your username and password



2. Click on the "Faculty/Staff" tab
  - a. Click on Higher Education Incentives



- b. Read all information provided before applying.
- c. Click on the link that says "Application Form"

3. It will bring you to a page that looks like this:



a. Select "Higher Education Incentives" from the drop down menu to see this:

The screenshot shows a detailed proposal form for the "2012-2013 Higher Education Incentives" program. The form includes fields for "Title of Project" (limited to 75 characters), "WSGC Funds Requested" (no commas), "Proposed match" (1:1 minimum, no commas), "Source(s) of Match", "Time Frame that Best Matches Your Project" (Pick One), and "Location of Project". There is also a "Synopsis" section with a text area for a short summary of the project. Below the synopsis is a link to "Proposal Requirements" and a note about the upload format (Microsoft Word, Excel, JPG, or PDF). A file upload button is labeled "Upload your proposal file:".

b. Read the Proposal Requirements document and upload all required documents.

4. Hit submit and you will be applied.

**\*\*NOTE:** You must be classified as a PROFESSIONAL or PROFESSOR to apply to this program. This is determined on your Personal Information page Under the Account info link at the top right of the screen.



## NASA Centers - Research Emphases

### **Ames Research Center**

As a leader in information technology research with a focus on supercomputing, networking and intelligent systems, Ames conducts the critical R&D and develops the enabling technologies that make NASA missions possible. Ames also is a leader in nanotechnology, fundamental space biology, biotechnology, aerospace and thermal protection systems, and human factors research. Ames research in astrobiology focuses on the effects of gravity on living things, and the nature and distribution of stars, planets and life in the universe.

In addition, Ames works collaboratively with the FAA, conducting research in air traffic management to make safer, cheaper and more efficient air travel a reality. Ames engages in information and education outreach, forms collaborative partnerships, and fosters commercial application of NASA technologies.

### **Dryden Flight Research Center**

The Dryden Flight Research Center, located at Edwards, California, is NASA's primary installation for flight research.

### **Glenn Research Center**

Glenn leads NASA's research in the microgravity science disciplines of fluid physics, combustion science and the field of microgravity acceleration measurement. Glenn is applying this expertise to Bioscience and engineering. The Center also designs power and propulsion systems for space flight systems in support of NASA programs and leads NASA's Space Communications Program.

Glenn leads NASA research and development in the area of Aeropropulsion, powering flight through the atmosphere and beyond. The Agency's major efforts are in subsonic, supersonic, hypersonic, general aviation, and high-performance aircraft propulsion systems as well as in materials, structures, internal fluid mechanics, instrumentation and controls, interdisciplinary technologies, and aircraft icing research. NASA Glenn also specializes in turbomachinery.

### **Goddard Space Flight Center**

Center activities:

- Conduct a preeminent program of research in the space and Earth science disciplines using measurements from space complemented by suborbital, ground-based and laboratory measurements and by theoretical investigations;
- Develop and operate a broad spectrum of flight missions that are responsive to the needs of the science community;
- Provide and operate spaceflight tracking and data acquisition networks;
- Develop innovative technology and instruments critical to the success of our mission;
- Develop and maintain advanced information systems for the display, analysis, archiving and distribution of space and Earth science data; and
- Develop National Oceanic and Atmospheric Administration (NOAA) satellite systems that provide environmental data for forecasting and research.

### **Jet Propulsion Laboratory (JPL)**

Research emphases not currently available. JPL is counted as a NASA Center in some cases but not others.

### **Johnson Space Center**

Johnson leads NASA efforts in human space exploration. JSC is the home of mission control.

### **Kennedy Space Center**

Kennedy serves as America's spaceport, the locus of nearly every NASA space launch.

**Langley Research Center**

More than half of NASA Langley's research is in aeronautics. Not only does Langley develop Airframe Systems, scientists also examine the layers of air planes and spacecraft fly through in Atmospheric Sciences.

Researchers have expanded their studies into other atmospheres, the kind spacecraft will find on distant planets, in NASA's Center of Excellence for Structures and Materials and in wind tunnels and test facilities.

Langley leads NASA initiatives in aviation safety, quiet aircraft technology, small aircraft transportation and aerospace vehicles system technology. It supports NASA space programs with atmospheric research and technology testing and development. Langley is home to the NASA Engineering and Safety Center.

**Marshall Space Flight Center**

Marshall manages the key propulsion hardware and technologies of the Space Shuttle, develops the next generation of space transportation and propulsion systems, oversees science and hardware development for the International Space Station, and handles a variety of associated scientific endeavors to benefit space exploration and improve life here on Earth.

**Stennis Space Center**

Stennis serves as NASA's rocket propulsion testing ground. The Applied Sciences Program bridges the gap between Earth science research results and the use of data to help its partner agencies make better informed decisions.

## Goals and Objectives - NASA Directorates

**The Aeronautics Research Mission Directorate (ARMD)** conducts vital research to make air travel more efficient, safe, green, and to uncover leading-edge solutions for the Next Generation Air Transportation System (NextGen) in the United States. ARMD's fundamental research in traditional aeronautical disciplines and emerging disciplines helps address substantial noise, emissions, efficiency, performance and safety challenges that must be met in order to design vehicles that can operate in the NextGen. (<http://www.aeronautics.nasa.gov>)

**The Science Mission Directorate (SMD)** leads the Agency in four areas of research: Earth Science, Heliophysics, Planetary Science, and Astrophysics. SMD works closely with the broader scientific community, considers national initiatives, and uses the results of National Research Council studies to define a set of "Big Questions" in each of these four research areas. These questions, in turn, fuel mission priorities and the SMD research agenda. The SMD also sponsors research that both enables, and is enabled by, NASA's exploration activities. SMD has a portfolio of Education and Public Outreach projects that are connected to its research efforts. (<http://nasascience.nasa.gov>)

**The Human Exploration and Operations (HEO) Mission Directorate** provides the Agency with leadership and management of NASA space operations related to human exploration in and beyond low-Earth orbit. HEO also oversees low-level requirements development, policy, and programmatic oversight. Exploration activities beyond low-Earth orbit include the management of Commercial Space Transportation, Exploration Systems Development, Human Space Flight Capabilities, Advanced Exploration Systems, and Space Life Sciences Research & Applications. (<http://www.nasa.gov/directorates/heo/home/index.html>)

**The Office of the Chief Technologist (OCT)** serves as the NASA Administrator's principal advisor and advocate on matters concerning agency-wide technology policy and programs. The Office of the Chief Technologist (OCT) is responsible for direct management of NASA's Space Technology programs and for coordination and tracking of all technology investments across the agency. The office also serves as the NASA technology point of entry and contact with other government agencies, academia and the commercial aerospace community. The office is responsible for developing and executing innovative technology partnerships, technology transfer and commercial activities and the development of collaboration models for NASA. ([http://www.nasa.gov/offices/oct/about\\_us/index.html](http://www.nasa.gov/offices/oct/about_us/index.html))

Please visit each NASA organization website to find detailed information about current projects and current areas of interest.

# National Space Grant College and Fellowship Program Strategic Plan 2002-2006 Executive Summary

The National Space Grant College and Fellowship Program Implementation Plan will guide the Space Grant program through the year 2006. This Executive Summary includes our National Vision, six National Mission Statements, and twelve National Goals. The strategic planning process involved all 52 Space Grant programs directly. Participation in the creation of the strategic plan included Space Grant Directors; Associate Directors; state, industry, and academic affiliates and NASA. In order to assure all states participate in the completion of this Plan, a participative process was used. One state, one vote. This methodology provided the opportunity for all participants and stakeholders to shape and focus the future of the National Space Grant College and Fellowship Program. This Implementation Plan is our roadmap. At its core is our support for NASA's Strategic Framework and our science and engineering education, research, and outreach programs.

## VISION

The National Space Grant College and Fellowship program is a national network of colleges and universities working to expand opportunities for Americans to understand and participate in NASA's aeronautics and space programs by supporting and enhancing science, and engineering education, research, and outreach programs.

## MISSION GOALS - 2001-2006

**Mission Statement #1:** Using our national network of scientists, engineers, and educators, enable the development of a diverse workforce of future scientists, engineers, technology professionals, and educators.

- Goal #1: Create a National Space Grant Fellowship Program and work to significantly increase the program size each year.
- Goal #2: Involve Space Grant students in research and discovery.
- Goal #3: Model diversity in Space Grant leadership, programs, and activities.

**Mission Statement #2:** Stimulate and nurture innovative programs to assure the development and transfer of practical applications in aerospace research and education.

- Goal #4: Identify innovative concepts and resources within and outside the Space Grant network, share information across the network, and identify sources of financial and other support.

**Mission Statement #3:** Cultivate a nationwide network of partners from universities, industry, museums, science centers, state and local agencies, to pursue state and national aerospace research, education, and economic development goals.

- Goal #5: Establish Space Grant as a viable state/national resource and catalyst for aerospace research, education, and economic development.
- Goal #6: Each consortium has on its Advisory Board members of science centers, industry, museums, and state and local agencies to create an environment where collaboration is encouraged and supported in areas of common interest. Representatives from the state Advisory Boards will comprise a national working group on networking which will meet at regional and national meetings and report.

**Mission Statement #4:** Provide access to the excitement, knowledge, and technology from America's Earth, Air and Space programs.

- Goal #7: Develop, enable, and highlight local participation in Earth, Air, and Space programs on a national level.

**Mission Statement #5:** Educate students at all levels by encouraging and supporting interdisciplinary and multi-disciplinary research experiences and education programs.

- Goal #8: Develop and promote national Space Grant opportunities for student research activities/space missions (e.g. Cube Sat, Cit. Explorers)
- Goal #9: The International Space Station (ISS): A Science Classroom for America. Engage the nation to be an active learner in this new science classroom by developing and flying student experiments on the ISS.
- Goal #10: Develop networks of students, faculty, and industry scientists to address workforce issues.

**Mission Statement #6:** Serve the general public by contributing to scientific literacy.

- Goal #11: Develop Earth, Air, and Space programs to enhance public scientific literacy and to complement community needs.
- Goal #12: Engage in all facets of the community in the excitement of scientific discovery using Science, Math, Engineering and Technology; (Edutainment, Process of Discovery).