Aerospace Outreach Program

Each year, the Wisconsin Space Grant Consortium awards a number of Aerospace Outreach grants to any established organization including, but not limited to: schools (K-12 and higher education), aerospace industries, and non-profit aerospace associations.

2015-2016

<table>
<thead>
<tr>
<th>Changes to Award Information</th>
<th>Last Name</th>
<th>First Name</th>
<th>Institution</th>
<th>Award Amount</th>
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<td>John</td>
<td>Kickapoo Valley Reserve</td>
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<td>Crossroads at Big Creek</td>
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Barbara Bielec
BioPharmaceutical Technology Center Institute, Madison
Project Title: Biotechnology Teacher Academy Summer Course - Biotechnology: The Basics & Biotechnology: Beyond the Basics
Synopsis: Biotechnology: The Basics and Biotechnology: Beyond the Basics are week-long, intensive summer course offered by the BTC Institute whose purpose is to assist teachers in their efforts to engage and educate future Science, Technology, Engineering and Math (STEM) professionals, improving the STEM pipeline, as well as to provide information essential to fostering a scientifically literate population.

Elizabeth Boatman
University of Wisconsin-Stout, Menomonie
Project Title: Understanding Engineering Design Transforms to Engineering Thinking: A Professional Development Experience for STEM Teachers
Synopsis: Understanding Engineering Design Transforms to Engineering Thinking is an experience intended to increase educators knowledge of engineering jobs, design, and thinking. This program helps to instill the basic engineering principles needed in order to implement engineering and design concepts in classrooms as mandated by the Common Core State Standards.
Matthew Heer  
*University of Wisconsin-Platteville, Platteville*  
**Project Title:** *Platteville High School Design & Prototype*  
**Synopsis:** A school based innovative program that promotes student interest in science, technology, engineering, and mathematics.

Carrie Rodamaker  
*Taliesin Preservation Inc., Spring Green*  
**Project Title:** *Imagine Mars Taliesin Summer Camp 2016*  
**Synopsis:** A week-long camp for Wisconsin students grades 5-10 to study Mars and design a future Mars community. Students create an exhibition with their 3D models for an imaginary colony on Mars.

Todd Treichel  
*Orbitec, Milwaukee*  
**Project Title:** *Rocket Science for Future Engineers Workshop*  
**Synopsis:** An intensive workshop focusing on providing first-hand rocket science activities to underrepresented 7-8th grade students in the Milwaukee area.

Thomas Consi  
*University of Wisconsin-Milwaukee, Milwaukee*  
**Project Title:** *Hands-On Engineering for Outer and Inner-Space Exploration*  
**Synopsis:** Challenges students to design and build underwater vehicles that share many aspects of spacecraft and space operations thus giving them a unique experience in both marine and spacecraft engineering.

Jerry Graf  
*Aviators by Design, Inc., Iola*  
**Project Title:** *Soar Like an Eagle*  
**Synopsis:** The mission of Aviators by Design, Inc. is to reach and recruit our youth and non-pilot public with a “fired up” and passionate introduction into the world of aviation. It aims to promote and teach STEM education as well as teach safety in aviation.

John Heasley  
*Kickapoo Valley Reserve, La Farge*  
**Project Title:** *Space Rocks*  
**Synopsis:** Space Rocks is an advanced space camp (ages 11-13) emphasizing planetary geology sing the unique resource of the Driftless Area to guide students further along the STEM stream.
Coggin Heeringa
Crossroads at Big Creek, Sturgeon Bay

Project Title: Astronomy Outreach for All Ages

Synopsis: Introduce learners of all ages to the STEM disciplines by providing continuing education classes for teachers, establishing a telescope loan program in local libraries, offering classes for retired adults, and hosting cross-generational activities focused on interactive astronomy.
Announcement of Opportunity 2015-2016

Applications Open: August 17, 2015
Submission Deadline: October 16, 2015
Award Announcements: Week of December 7, 2015

Purpose:

To provide planning grants and supplemental grants for new or ongoing projects which have space-related content.

Projects should:

- raise the level of exposure and interest of K-12 teachers, students, and the general public in space, aerospace, and space-related science, design, or technology and its potential benefits; and/or increase interest, recruitment, experience and training of pre-college students in the pursuit of space- or aerospace-related science, design, or technology.
- demonstrate self-sustaining and/or replicable capabilities.
- clearly meet the 2015-2016 specific goal: Improve the STEM pipeline by including underserved and/or underrepresented students in the project; or including the teachers who specifically teach those populations.

Awards:

Most awards are ~$3,000* per year. WSGC will not fund overhead; however, it may be counted as the organization’s 1:1 project match.

*Based on availability of funds.

Requirements:

- U.S. Citizen
- Any established organization (e.g. K-12 and higher education schools, aerospace industries, government agencies, non-profit aerospace associations, etc.)
- A 1:1 match

Supporting Materials Required with Application:

Your proposal must address each of the five categories listed below. Be sure to clearly label each category within your proposal.
1. Sponsoring Organization Information:
Provide demographic information for the sponsoring organization.

2. Goals and Value of Project:
In 1-2 pages, describe the goals of your new project or the enhancement of an existing project, how it fits into your organization’s scope, and the value of the project to the participants/recipient. State how your goals align with the goals of the Aerospace Outreach Program. Specifically state how the project will:

- support STEM education innovation that embraces the Common Core State Standards for Mathematics and/or Wisconsin’s Model Academic Standards for Science, by raising the level of exposure and interest of K-12 teachers, students, and the general public in space, aerospace, and space-related science, design, or technology and its potential benefits; increase interest, recruitment, experience and training of pre-college students in the pursuit of space- or aerospace-related science, design, or technology.
- demonstrate self-sustaining and/or replicable capabilities. *(If this is or will be an on-going project, describe whether and how it might become self-sustaining. How can this project be shared with others interested in starting a like project?)*
- demonstrate how the project meets the 2015-2016 specific goal: Improve the STEM pipeline by including underserved and/or underrepresented students in the project; or including the teachers who specifically teach these populations.

Detail how this project aligns with the goals of one or more NASA Directorates or Centers. Please be specific. **Because the WSGC is required to demonstrate the alignment of each of our projects with NASA Directorate or Center goals, proposals that do not demonstrate such alignment will not be funded.** If this proposal focuses on NASA precollege education, state how the proposal ties with national or state education standards for STEM: Science, Technology, Engineering and/or Mathematics. If this project focuses on NASA informal education, which seeks to enhance the capabilities of individuals and the informal education communities, state how this proposal will provide stimulating experience in science, technology, engineering, and mathematics outside the directed learning of a classroom.

3. Description of Anticipated Participants:
In 500 words or less, please address the number of anticipated participants, how they will be selected, and provide available demographic and numeric information on underrepresented minorities, women, and people with disabilities. Include in this 500 word description the location of the project and its participants.

4. Discussion of the Project:
In less than three pages, discuss the proposed project in sufficient detail that the reviewers may ascertain its chance of success. The following should be noted specifically:

1. Project classification: NASA Pre-College Education Program or NASA Informal Education Program
2. Work plan
3. Schedule, activities, and events

4. Self-evaluation criteria, including data on any resulting student interest in STEM careers

The proposal should also list special facilities needed, and special supporting personnel or organizations. Include any history or prior results on the project and the planning status to date.

5. Budget/Use of Funds:

Describe in detail the use of the funds for the proposed project, then estimate the total project costs (direct costs only), and other contributor(s) and their contributed match amount(s) in the following format:

<table>
<thead>
<tr>
<th>Budget Item</th>
<th>WSGC</th>
<th>Match*</th>
<th>Total</th>
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<tr>
<td>Be specific here. Category headings such as</td>
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<td>“Supplies &amp; Expense,” “Transportation,” preferred.</td>
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<td>Total</td>
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*A minimum 1:1 match is required. Add more match columns if there is more than one source of matching funds. Indicate the source of each match.

NASA (WSGC is a NASA-funded organization) does not allow the purchase of capital items as reasonable use of funds. Use your institution’s definition of “Capital Equipment” for guidance on this restriction. Visits by active astronauts cannot be funded as these visits are generally arranged through the Astronaut Office and are typically free of charge to the requesting organization. Field trips will only be considered as a minor component of a project, and only if they are necessary to the project goals.