

# Montana Space Grant Consortium and Montana NASA EPSCoR

## CALL FOR PROPOSALS

### 3 OPPORTUNITIES



<http://spacegrant.montana.edu>

<http://nasaepscor.montana.edu>

Competition for:

1. RESEARCH INITIATION (RI) FUNDING  
*and*
2. EDUCATION ENHANCEMENT (EE) FUNDING  
*and*
3. HIGH ALTITUDE BALLOONING FACULTY FELLOWSHIPS

**Proposal submission deadline:  
5:00 p.m., Friday, October 14th, 2016**

## Contact Information

**Physical Office Location:** 416 Cobleigh Hall, Montana State University

**Office Mailing Address:** MSGC  
PO Box 173835  
Montana State University  
Bozeman, MT 59717

**Questions? Contact:**

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\*For proposal discussion, e-mail is preferable

## General Information

### PROPOSAL SUBMISSION:

Proposals must be uploaded as a single PDF file at <http://spacegrant.montana.edu>. Use password "MSGC-MNE-2017". In addition, the original plus 2 double sided copies must be sent to the Montana Space Grant Consortium Office. Both the electronic and hard copies (post date) are due:

**Friday, October 14<sup>th</sup>, 2016 by 5:00 p.m. MST.**

### CAMPUS CLEARANCE & CERTIFICATION:

All investigators are required to advise the appropriate administrator and/or department head on their campus of their plans by submitting a copy of the proposal to them. All proposals must include a campus proposal clearance form complete with signatures including budget approval and certification of non-federal cost share by your campus research office. See page 3 for budget details.

At least one RI or EE award will be set aside for **smaller Montana campuses**. By smaller we mean any member campus other than MSU-Bozeman and UM-Missoula. The purpose of this reserve fund is to encourage proposals from institutions that might not normally feel competitive against the large research schools. Funding successful seed projects at smaller campuses is a goal of Space Grant and NASA EPSCoR.

If you wish to have an example of a successful MSGC proposal, contact the MSGC office and we will provide you with one. An example may help you prepare your proposal.

Due to stiff MSGC cost share requirements, all RI and EE proposals must still include at least 1:1 **non-federal** cost share for requested NASA/MSGC funds. If you have questions on what can or cannot be counted as cost share and/or do not have a grants and contracts office, please contact the MSGC office for advice. We are here to help you succeed.

# RI & EE Budget Preparation Guide

Use the two-column budget form available at:

<http://spacegrant.montana.edu/Text/budget.xls>

Budget requests are allowed up to \$50,000 total, including appropriate F&A or indirect costs. Smaller budget requests increase fundability. Budgets, particularly form and amount of cost share funds (shown in the second column labeled “cost sharing”) must be approved and certified by signatures on a Proposal Clearance Form from your campus.

1. Salary breakdown must include amount of time each person being paid from the grant devoted to the Space Grant/NASA EPSCoR Program. It should be indicated in staff hours as well as by the percentage of the individual's total effort (FTE). Fringe benefits for salaries should be shown as a line item; benefits must be included on personnel. For Educational Enhancement proposals, all persons receiving support must be U.S. citizens. For Research Initiation proposals, specifically named non-citizens may receive support. *In this case, the budget explanation must clearly indicate which personnel are non-citizens.*

2a. Cost share. All proposals should have a certified 1:1 non-federal cost share. Cost share may be in the form of cash match, faculty release time, waived equipment use fees, etc. Questions regarding the validity of a cost share fund source should be directed to the local office of sponsored programs and/or the MSGC office. Proposals submitted with less than the required amount cost share will be reviewed and considered for funding. If selected, however, the proposal can only be funded for an amount equal to the final cost share amount.

2b. MSU proposals: When considering possible sources of cost share funds for an MSU-Bozeman proposal, be aware that there will be no return of indirect costs on these grants to college, department, or PI. Do not contact the MSU VPRED office concerning possible cost share for your proposal.

3. Show a complete breakdown of estimated travel costs, including airfare and per diem, registration fees and car rental costs.

4. No foreign travel or civil servant travel are allowed on any grant or cost share funds.

5. Consultant fees require a resume, work statement, and a breakout of hourly rate.

6. Permanent equipment may not be charged to or used as cost share on any grant. Check with your institution for the definition of equipment.

7. Postage, general office supplies and peripheral purchases may not be charged to the grant. See OMB Circular A-21 for additional general grant restrictions and rules.

8. The purchase of general purpose computers is not allowed on any grant.

*Please do not hesitate to contact the MSGC office if you have budget questions. Submitted proposals often have errors in the budget, which lead to difficulties in review and evaluation. Let us help you fix these before submission.*

## Research Initiation (RI)

Proposals are welcome in all fields of science and engineering normally funded by NASA (refer to <http://nasaepscor.montana.edu/interest.html> and the MSGC office for guidance). It may be beneficial to research NASA's website for recently funded areas of research. Research Initiation Grants from the Montana NASA EPSCoR Program **are intended to help junior faculty or faculty new to NASA research at Montana institutions develop nationally competitive research programs in fields related to NASA missions.** In addition, the awards are meant to assist in Montana's economic development in aerospace-related fields by strengthening existing Montana high-tech companies, seeking new connections between Montana faculty researchers and state industries, and building university research enterprises that will foster "spin-off" startup enterprises. Grants are generally for a period of one year (see note below), and all grantees are expected to submit a follow-on proposal to NASA for continued funding within the period of the grant.

It is strongly suggested that faculty make contact with NASA researchers in their field before submitting a proposal to determine and document NASA's interest in the proposed research area. Proposals should include evidence of interest and potential support from NASA, e.g., in a letter(s) of support. The stronger the indicated support, the better the chance of obtaining funding from Montana NASA EPSCoR.

### Research Initiation – Important Details

#### **FUNDING PERIOD**

Research Initiation grants are for one year. We will to be able to accommodate start dates as early as January 2017 (ending December 2017). Proposals should state the desired start date. Typically, no-cost extensions are allowed up to one year.

#### **ELIGIBILITY**

Faculty or appropriate professionals at Montana institutions of higher education are eligible to apply. Research Initiation Awards are intended for junior faculty or faculty new to NASA-related research. Faculty who already have substantial off-campus funding or who are already well established members of research groups with substantial off-campus funding are not encouraged to apply, unless working with NASA represents a significant new direction.

#### **PREVIOUS GRANTEES**

Recent recipients of a **Research Initiation** grant who have not submitted a follow-on proposal directly to NASA will generally not be considered eligible for additional funding until such time that attempts to secure off-campus funding can be demonstrated. If you have recently (three years) held a NASA EPSCoR Research Initiation Grant, include in your proposal a discussion of your efforts to obtain competitive NASA funding since the original award, including a listing of all proposals submitted to NASA and other agencies, indicating whether declined, pending, or awarded.

#### **SELECTION PROCESS**

All proposals will be reviewed by the Montana NASA EPSCoR (MNE) Proposal Evaluation Committee. This committee consists of respected scientists, engineers, and educators from around the state. The evaluation committee's rankings are used together with MNE's overall budget constraints to determine which proposals may be funded.

## EVALUATION CRITERIA

For NASA EPSCoR **Research Initiation** proposals, the panel will consider:

- 1) Scientific/Engineering impact,
- 2) NASA connection,
- 3) Feasibility,
- 4) Broader impacts; see Montana NASA EPSCoR goals: <http://nasaepscor.montana.edu/goals.html>,
- 5) Suitability of the proposed research team,
- 6) Probability of the work resulting in further NASA funding,  
and optionally:
  - i) Montana undergraduate and graduate student impact, and
  - ii) Economic development/technology transfer impact. While we will make sure at least one reviewer on the panel is in your field, most of the reviewers will not be in your field; aim your proposal at the general science/engineering level.

Any proposal that is a **resubmission** of a previously declined MSGC/MT NASA EPSCoR entry must include a separate page addressing the weaknesses stated in proposal's review. Only reentries that address previous weaknesses will be reviewed.

## OUTLINE FOR PREPARING Montana NASA EPSCoR **RESEARCH INITIATION PROPOSALS**

Submit electronically as a single PDF file via the uplink at <http://spacegrant.montana.edu>. Use password "MSGC-MNE-2017." In addition, submit the original plus 2 double sided copies and one signed copy of your campus Proposal Clearance Form. *Note: Failure to provide all information requested below may delay the review process and jeopardize your proposal's review.*

- I. TITLE PAGE: proposal title, P.I. name, address, phone number, e-mail address and total budget request (indicate both amount of NASA funding requested *and* amount offered as cost share).
- II. TABLE OF CONTENTS
- III. ABSTRACT: limit to 250 words
- IV. BODY of proposal (10 page maximum). Required: double spacing, 12 pt font, and one inch margins.
  - A. Introduction
  - B. Rationale
  - C. Goals and objectives for the project that are specific, measurable and appropriate. Project goals and objectives must further one or more of the Montana NASA EPSCoR goals, see <http://nasaepscor.montana.edu/goals.html>
  - D. Approach & Methods
  - E. Team Description
  - F. Description of all contacts and communications with NASA Centers regarding this proposal. Explain how the proposed research relates to NASA's existing research and needs.
  - G. References (not included in page count)
- V. Letters of support, including from NASA personnel.
- VI. COMPETITIVE STATEMENT (2 page maximum): Indicate how this proposal, if funded, will improve your national competitiveness for regular NASA or other appropriate agency funding. Describe plans for subsequent research and grant activity that will be enabled by this seed funding. Specify possible specific future funding sources that are available.
- VI. BIOGRAPHICAL INFO: Provide a list of grant support, title of proposals, dates, funding agency, and amount of awards. Include biographical information (2 page max CV) for all faculty involved.
- VII. BUDGET: See "Budget Preparation Guide" on page 3.
- VIII. JUSTIFICATION/EXPLANATION OF BUDGET: Describe how the budget will allow the proposed research; provide detail on salaries, benefits, supplies, travel expenses, user fees, indirect costs, etc.
- IX. CONTINUED FUNDING JUSTIFICATION (prior grantees only): Explain why further funding of your program by NASA EPSCoR is appropriate: will one more year's funding strongly enhance the probability of your program being funded directly by NASA?

# Education Enhancement (EE)

Proposals should present a plan for significantly improving educational programs and resources in fields of science, technology, engineering and/or math (STEM) at the MSGC member colleges and universities and/or K-12 educators. Proposed projects that focus on those aspects of STEM education that connect to NASA's mission, aeronautics and space receive preference. The goals of the National Space Grant Program are:

- Promote a strong science, technology, engineering, and mathematics education base from elementary through secondary levels while preparing teachers in these grade levels to become more effective at improving student academic outcomes.
- Establish and maintain a national network of universities with interests and capabilities in aeronautics, space and related fields.
- Encourage cooperative programs among universities, aerospace industry, and Federal, state and local governments.
- Encourage interdisciplinary training, research and public service programs related to aerospace.
- Recruit and train U.S. citizens, especially women, underrepresented minorities, and persons with disabilities, for careers in aerospace science and technology.

Grants are for a period of one year. Proposals that address university/college level education, including pre- and in-service education and training of K-12 educators, will be favored. While our focus remains on higher education, projects focused on secondary, elementary, and informal (general public) education will be considered for funding. Proposals involving curriculum changes or additions should provide clear documentation of support for the proposed project change by appropriate administrators (department heads, deans, etc.). Proposals for course development or modifications *must* be accompanied by an explanation of why funds are not available from other sources, such as the home institution.

## Education Enhancement – Important Details

### **FUNDING PERIOD:**

Educational Enhancement grants are for 1 year. Start dates as early as January 2017 (ending December 2017) can be accommodated. Proposals should state the desired start date. Typically, no-cost extensions are allowed up to one year.

### **ELIGIBILITY:**

Faculty or appropriate professionals at MSGC member campuses are eligible to apply. View the list of Consortium member campuses at: <http://www.spacegrant.montana.edu/members.html>.

Educational Enhancement proposals should clearly show how the proposed funding and program will substantially enhance space-related science, math, and engineering education in the state of Montana. Proposals in which it can be demonstrated that the new programs or enhancements created will be able to continue into the future without continuing Space Grant funding will be favored.

### **PREVIOUS GRANTEES:**

Those who have held Montana Space Grant Consortium funding for Educational Enhancement activities in the past are eligible to apply for new or significantly expanded project funding. Proposals which seek to use continued funding to simply maintain programs created with Montana Space Grant Consortium

funding in previous years are not encouraged.

**SELECTION PROCESS:**

All proposals will be reviewed by the Montana Space Grant Consortium Proposal Evaluation Committee. This committee consists of respected scientists, engineers, and educators from around the state. The evaluation committee's rankings are used together with MSGC's overall budget constraints to determine which proposals may be funded.

**EVALUATION CRITERIA:**

For Educational Enhancement proposals, criteria include:

- 1) the extent to which the proposed project enhances NASA-related education in Montana,
- 2) level long term impact, and
- 3) how the proposed goals support the general national NASA Space Grant program goals.

Successful proposals can have a wide reach, a deep impact, or both.

Any proposal that is a resubmission of a previously declined MSGC/MT NASA EPSCoR entry must include a separate page addressing the weaknesses stated in proposal's review. Only reentries that address previous weaknesses will be reviewed.

OUTLINE FOR PREPARING Montana Space Grant Consortium  
**EDUCATIONAL ENHANCEMENT PROPOSALS**

Submit electronically as a single PDF file via the uplink at <http://spacegrant.montana.edu>. Use password "MSGC-MNE-2016." In addition, submit the original plus 2 double sided copies and one signed copy of your campus Proposal Clearance Form. *Note: Failure to provide all information requested below may delay the review process and jeopardize your proposal's review.*

- I. TITLE PAGE: proposal title, P.I. name, address, phone number, e-mail address, and total budget request (indicate both amount of NASA funding requested *and* amount offered as cost share).
- II. TABLE OF CONTENTS
- III. ABSTRACT: limit to 250 words
- IV. BODY of proposal (10 page maximum). Required: double spacing, 12 pt font, and one inch margins.
  - A. Introduction
  - B. Rationale, including connection to NASA-related education in Montana
  - C. Goals and objectives for the project that are specific, measurable and appropriate. Project goals and objectives must further one or more of the National Space Grant goals, see page 7
  - D. Schedule and milestones
  - E. Description of long-term impact of your project, if funded. Will your improvements to the state of STEM education in Montana extend beyond the funding period? Is the impact a mile wide and an inch deep, vice versa, or in between? Give details.
  - F. How will your project be evaluated? Provide specific metrics that relate back to your objectives, a reporting plan, and evaluation timeline.
  - G. If your proposal is directed at pre-service or in-service teachers, you must briefly address the following issues: How will your efforts address the National Education Standards in Mathematics and Science as well as the National Space Grant objectives?
  - H. Team Description
  - I. References (not included in page count)
- V. BIOGRAPHICAL INFO: Include a two page CV for each investigator.
- VI. BUDGET: See "Budget Preparation Guide" on page 3.
- VII. JUSTIFICATION/EXPLANATION OF BUDGET: Describe how the budget will support the proposed project; provide detail on salaries, benefits, supplies, travel expenses, user fees, indirect costs, etc.
- VIII. SUMMARY OF PROJECT PROGRESS (prior grantees only): Describe in detail the progress made to date on your project. Describe impacts in terms of number of students involved, for what time period, evaluations of new classes offered, etc. Be quantitative whenever possible (estimate impacts if necessary).

# High Altitude Ballooning Faculty Fellowships

MSGC invites faculty members from member campus other than MSU-Bozeman and UM-Missoula to propose for a fellowship to mentor students in high altitude ballooning. Currently, the MSGC BOREALIS program is growing beyond MSU and UM to several other campuses. To support this growth, we offer funding of \$7,500 per faculty member for summer or academic year work. The lead Flight Directors at MSU and UM will be available for guidance for the selected faculty fellows. The ballooning activity can be either radiosonde flights or traditional larger balloon flights carrying student-designed payloads. In every case, flights must follow FAA regulations and be considered exempt under FAA Part 101. In addition to the fellowship funding, selected faculty will have the financial support for up to five radiosonde flights or two traditional flights. For this first year faculty fellowships, particular emphasis is on the Nationwide Eclipse Ballooning Project and the Radiosonde Eclipse Atmospheric Project (see more here at <http://eclipse.montana.edu>).

## Ballooning Fellowships - Important Details

**FUNDING AND FUNDING PERIOD:** Stipends of \$7,500 will be awarded to be used between November 1<sup>st</sup>, 2016 and August 31<sup>st</sup>, 2017. The funding can be used in the summer or be spread out (if cleared by your campus HR) into the academic year. Timing of faculty availability and student availability should be carefully thought out. In addition, fellowships **must be matched 1:1** with institution time and effort. This match can be shown by a letter from the department head or equivalent.

**ELIGIBILITY:** Faculty or appropriate professionals at MSGC member campuses other than MSU-Bozeman and UM-Missoula are eligible to apply. View the list of Consortium member campuses at: <http://www.spacegrant.montana.edu/members.html>

**SELECTION PROCESS:** All proposals will be reviewed internally by the Montana Space Grant Consortium. Notification of selection results is expected by October 31<sup>st</sup>, 2016.

**EVALUATION CRITERIA:** Anticipated broad and student impact, sustainability of ballooning at the home institution, and feasibility.

### OUTLINE FOR PREPARING Montana Space Grant Consortium **HIGH ALTIUDE BALLOONING FACULTY FELLOWSHIP PROPOSALS**

Submit electronically as a single PDF file via the uplink at <http://spacegrant.montana.edu>. Use password "MSGC-MNE-2017." In addition, submit the original plus 2 double sided copies to MSGC.

- I. ABSTRACT: limit to 250 words
- II. BODY of proposal (3 page maximum). Double spacing is required; 12 pt font. No budget needed.
  - A. Describe the proposed activity, why it is important for your institution and students, and why you are the right person to implement it.
  - B. Schedule and milestones, including how you propose to spend your time.
  - C. Description of long-term impact.
- III. Letter of Support from Department Head: Proposals should provide clear documentation of support for the proposed activity by appropriate administrators (department heads, deans, etc.). Letters much include a statement agreeing to the 1:1 time and effort match.