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MSGC Hands-On Experiences for College Student Groups: 2019-2020 Funding Request for Proposals - Overview

Deadline: Submissions accepted through January 15, 2019 for funding ~April 15, 2019 – April 14, 2020.

Goal: This opportunity seeks proposals for experiences in science and engineering disciplines - active participation by students in hands-on learning rooted in NASA-related, STEM-focused questions and issues with the incorporation of real-life needs and problem-solving as the context for activities.

Eligibility: Teams or individual students may apply. MSGC encourages proposals involving women, underrepresented minorities, and persons with disabilities. Applicants must meet the following criteria:

- Be enrolled at one of MSGC's affiliated Universities (listed at top of this page)
- Have a faculty or staff mentor
- Have approved space for work on the project
- Provide 1:1 cost-sharing, either cash or in-kind, with non-Federal funds
- Discuss their ideas with the MSGC representative on campus to see if their ideas fall within the scope of this opportunity.

Proposal documents: Upon approval from [MSGC campus representative](#), the applicant may submit:

- **Brief Description of Project** (3 page maximum, 12pt font): Describe the project, indicating desired outcomes, what the funds will be used for, how it aligns with the Goal expressed above, and an approximate timeline/milestones table. Preface it with a project summary of 200 words or less.
- **Budget** (additional page): Project budget may be up to \$5,000. Funding level will be based on need as determined by Campus Representative. Details on p. 2; budget template on p. 5.
- **Application form:** See p. 4.

Merit: Applications will be evaluated based on alignment with requirements. Preference will be given to projects linked to NASA competitions, specific Mission Directorate needs, or authentic flight platforms (high altitude balloons, sounding rockets, aircraft and space satellites). More details on p. 2.

Reporting Requirements: Applicants must commit to support NASA reporting. See details on p. 3.

- Student data for all team members – due at time of application submission
- Completed questionnaire about project data - due toward the end of the contract period
- Narrative report (two pages or less plus appendices) due May 31, 2020

Submissions should be emailed to Brenda Vyletel, MSGC Program Manager, @ bvyletel@umich.edu.

MSGC Hands-On Experiences for College Student Groups – Budget and Merit Details

Budget (Funds must be expended by April 14, 2020):

- Allowable expenses include supplies, travel, and stipends.
- Unallowable expenses include indirect cost, foreign travel, facility renovation, promotional materials, hosting, or equipment, the last of which is defined as anything costing > \$5,000.

Merit: Projects will be evaluated based on the degree of alignment with the following areas of emphasis that NASA has specified for 2019-2020 programs (excerpted from NASA solicitation):

- Authentic, hands-on student experiences in science and engineering disciplines - the incorporation of active participation by students in hands-on learning or practice with experiences rooted in NASA-related, STEM-focused questions and issues, and the incorporation of real-life problem-solving and needs as the context for activities. Human Exploration Mission Directorate examples include but are not limited to: **Rock-on Workshop, Robotic Mining Competition, Micro-g NExT and NASA Human Exploration Rover Challenge.**
- Human Exploration and Operations Mission Directorate (HEOMD) Research (<https://www.nasa.gov/directorates/heo/education/index.html>) - HEOMD provides the Agency with leadership and management of NASA space operations related to human exploration in and beyond low-Earth orbit. Examples include: Support for NASA's Commercial Crew Program activities via educators and informal science venues (e.g., virtual field trip equipment, launch viewing parties, professional development workshops) and EM-1 mission support via EM-1 STEM Engagement activities (e.g., EM-1 university competition)
- Space Technology Mission Directorate (STMD) Research (https://www.nasa.gov/directorates/spacetech/about_us/index.html) - STMD is responsible for developing the crosscutting, pioneering, new technologies and capabilities needed to achieve NASA's current and future missions. Examples of Space Technology Areas (are shown in the table below) ... (excerpted from the MISTC solicitation <https://nspires.nasaprs.com/external/viewrepositorydocument?cmdocumentid=605133&solicitationid={4F44576B-B36B-1AF0-4A44-12AD35907998}&viewSolicitationDocument=1>). Also seeking solutions for the STMD: Centennial Challenges (https://www.nasa.gov/directorates/spacetech/centennial_challenges/index.html) and STMD: BIG Idea Challenge (<http://bigidea.nianet.org/>)

Space Technology Areas	NASA Center(s)/Facility
Aerosciences research for flight in all atmospheres	ARC/LaRC
Power technology and advanced development	GRC/MSFC
Propulsion--technology and advanced development (chemical propulsion)	GRC/MSFC
Propulsion--technology and advanced development (electric propulsion systems)	GRC/MSFC
Entry, Descent and Landing	ARC/LaRC/JPL
Vehicle Structures and Materials Technology	LaRC
Advanced Manufacturing	LaRC/MSFC
Communications and Navigation	GRC/GSFC/JPL
In-Situ Resource Utilization (ISRU) Technology	GRC/JPL
Robotics	GSFC/JPL/ARC
Autonomy	ARC/JPL/LaRC
Avionics technology and advanced development	GSFC/JPL
Cryogenic fluid flight systems	GRC

MSGC Hands-On Experiences for College Student Groups – NASA Reporting Details

In submitting a proposal, team members agree to support the following NASA reporting requirements:

Student data tables, participation information, and long-term follow-up

- Upon proposal submission: an excel spreadsheet will be sent for provision of information about team members. This sheet is due one month after award acceptance and must be updated as additional team members join throughout the project period. Students should be willing to respond to one short email per year, long-term, for the purpose of NASA program evaluation. This will only happen if they meet the condition of a significant award, explained below.
- Due as it happens: Students working >160 hours over the course of the period of performance must inform the MSGC Program Manager and agree to respond to one short email per year, long-term, for the purpose of NASA program evaluation.

Questionnaire – Due March 31, 2020

All programs must complete a questionnaire that will be provided by MSGC by March 1, 2020

Report – Due May 31, 2020, with *applicant* responsible for submission.

Narrative: Describe the following in **2 pages or less**, 1" margins, Arial 12-point font

- Activities during the period of performance.
- How the funding was used
- If the program targeted women, URM, and/or persons with disabilities, how it did so
- As appropriate, details on collaborations between universities, university departments, industry, faculty, students, etc.; specify disciplines.

Appendices: In addition, provide these appendices (**Pages in addition** to other report components)

- A. Papers, presentations, news articles, press releases, and follow-on funding resulting from MSGC funding
- B. Timetable, including milestones (events/products)
- C. 1-5 photos of students and project work, with captions, to highlight accomplishments. Each individual identifiable in photographs must have signed a photo-release form.

Publications

- Researchers submitting NASA-funded articles in peer-reviewed journals or papers from conferences now shall make their work accessible to the public through NASA's PubSpace at <https://www.nasa.gov/open/researchaccess/pubspace>. PubSpace provides free access to NASA funded and archived scientific publications. Research papers will be available within one year of publication to download and read.
- Papers and presentations must acknowledge NASA funding through Michigan Space Grant Consortium

MSGC Hands-On Experiences for College Student Groups – Application Form

Please submit this application and accompanying documents to: byyletel@umich.edu.

We the undersigned certify information provided is correct, and we will abide by stated requirements.

Student Proposer: _____

First M.I. Last

Signature: _____

Date: _____

Degree Program: _____

Department: _____

College/University: _____

Expected Graduation Date: _____

Telephone: _____

Email: _____

Project Title: _____

Time Frame: _____

If part of a Regional or National competition, specify: _____

Date and location of event: _____

Total MSGC funds requested: _____

Total Non-Federal match (cash or in-kind): _____

Faculty Mentor: _____

First M.I. Last

Signature: _____

Date: _____

Telephone: _____

Email: _____

University space to be utilized by group: _____

Sponsored Programs Office representative: _____

First M.I. Last

Signature: _____

Date: _____

MSGC Hands-On Experiences for College Student Groups – Budget template

Additional budget line items may be included as necessary while considering unallowable expenses.

University: Applicant:		NASA	MATCH
Faculty mentor: Project Name:		MSGC Funds Request	Non-Federal Cost Share
Materials and Supplies		\$0	\$0
Travel (Domestic)		\$0	\$0
Wages+Fringe (Undergraduates)		\$0	\$0
TOTAL DIRECT COSTS		\$0	\$0
INDIRECT COSTS			
	NASA Indirect*	54.0%	\$0
	Match Indirect *	54.0%	\$0
TOTAL BUDGET		\$0	\$0

* Use the government-approved indirect cost rate for your university (eg. UM = 54%)