

# NASA CONNECTICUT SPACE GRANT CONSORTIUM

# **REQUEST FOR PROPOSALS**

# **Faculty Programs**

Research Grant
STEM Education Research Grant
STEM Education Programming Grant
Travel Grant
Community College Quadcopter Challenge
Undergraduate Student-Faculty Research

University of Hartford (Lead Institution), 860.768.4813 ctspgrant@hartford.edu, www.ctspacegrant.org @CTSpaceGrant

**Contact Points:** Each **Consortium Member** institution has a Campus Director (listed below). Questions should be directed to that person. If you are unable to contact the appropriate Campus Director, inquiries may be directed to the Consortium Office.

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# **About NASA CTSGC**

*History:* In order to encourage broader participation in NASA research programs, Trinity College, University of Connecticut, University of Hartford, and the University of New Haven formed the Connecticut Space Grant College Consortium in 1991. The philosophical intent of this program was, and continues to be, to build a research infrastructure in Connecticut which supports the aerospace, space science, engineering and technology related initiatives of federal and state government and private industry.

NASA Connecticut Space Grant Consortium (CTSGC) is one of 52 state-based, university-led Space Grant Consortia funded by NASA Office of STEM Engagement (OSTEM) to develop and implement student fellowship and scholarship programs, interdisciplinary space-related research infrastructure, education, and public service programs; and cooperative initiatives with industry, research laboratories, and state, local and other governments. Space Grant operates at the intersection of NASA's interest as implemented by alignment with the Mission Directorates and NASA CTSG's interests. Although it is primarily a higher education program, Space Grant programs should encompass the entire length of the education pipeline, including elementary/secondary and informal education. NASA CTSGC is a Capability Enhancement Consortium.

**Research infrastructure** includes all factors that promote the development and maintenance of research activity. These include, but are not limited to, faculty seed funds for research, development or revision of curricula, and travel to use NASA facilities, cultivate collaborative arrangements or proposal contacts, technical support, and dissemination of research results. Due to the relatively small size of awards, the applicant should be aware that the Consortium is interested in supporting scholars new to their fields, and those experienced researchers who are looking to redirect their research or refocus on NASA's objectives. These funds are seed money and not a replacement for other sponsored research funds or institutional funds.

# **Proposal Development Considerations**

A proposal must demonstrate a link between the proposal work and one of NASA's strategic enterprises, or Mission Directorates. They are Aeronautics Research, Human Exploration and Operations, Science, and Space Technology.

Faculty who respond must show a 1:1 Non-Federal cost match ratio within their budgets. For example, if you are responding to a \$10,000 research grant, your budget needs to show \$20,000 with a \$10,000 match (funds not supplied by the federal government) and \$10,000 supplied by the Consortium. Evidence of your institution's agreement to this match should be included within your proposal. Please be sure to contact the appropriate grants office within your institution before submitting your proposal; institutional office signature is required on your application.

For use of NASA facilities, University Affairs Offices at NASA Centers must be contacted. Contact information and NASA facility missions statements may be found at each of the NASA facilities web sites. For a directory of facility web sites see: <a href="http://www.nasa.gov/about/sites/index.html">http://www.nasa.gov/about/sites/index.html</a>

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#### **Eligibility Requirements**

- 1. Full-time Faculty at Consortium Member Institutions are eligible to apply. Full-time research staff and associates are also eligible to apply.
- 2. NASA Office of Management and Budget (OMB) mandates that only citizens of the United States of America may receive direct funding from any NASA Space Grant award. Direct funding for non-citizens must be comprised of institutionally matched funds or other non-federal funds. For further clarification, please see the Request for Proposals booklet available on our website. (Subpart A of 14 CFR Part 1260).
  - Recipients of Space Grant money must provide proof of U.S. Citizenship via the Grant Verification Form at the time of application. Proof of citizenship may be in the form of one of the following:
    - U.S. Passport (may be currently valid or expired)
    - Naturalization Certificate
    - U.S. Birth Certificate
    - Military ID Card
  - o Note: Please do not send a copy of your proof of citizenship to the consortium office.

# **Preparation of Proposals**

If you are considering applying for a NASA CTSGC funding, you should contact your Campus Director as far in advances as possible to review the application process, and the steps that should be followed for a successful application submission.

# **Project Periods**

Awards may be for a single semester, full academic year, and/or summer time periods. The applicant <u>must include specific beginning and ending dates (mm/dd/yyyy)</u> on the Application Form. **Due to our current grant with NASA, all grant activity must be completed by May 30, 2020.** 

Note: Award decisions will be made approximately 6 weeks following the application deadline.

# **Review of Proposals**

The proposal review committee is composed of NASA CTSGC academic Campus Directors. Reviews are performed after the submission of proposals. The reviewers may request additional information if needed. The request will be made through the NASA CTSGC Office. Decisions are anticipated within six weeks of the submission of proposals. Reviewers will evaluate proposals using the rubrics shown under each program.

#### **Application Submission**

Submit the application and additional forms via the links at ctspacegrant.org.

## **Award Notification**

<u>Award/Decline Letters</u>: Each application/applicant will receive an email notification of their application with an attached award/decline letter. *Decisions are typically made within six weeks following the application deadline*.

<u>Website and Social Media</u>: Awards will be announced on the NASA CTSGC website and via Twitter. (<u>www.ctspacegrant.org</u>, @CTSpaceGrant).

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# **Evaluation of Funded Projects and Reporting Requirements**

The following are required upon completion of the project: Project report, Student participant tracking, and participation in Grants Expo Poster Session.

<u>Public Information</u>: This is a federal grant; therefore, information such as title, abstract, names, institution and year will be posted on the NASA CTSGC website and will be kept there for an extended period of time.

# **Equipment and Supplies**

NASA CTSGC funds may not be used for equipment purchases. The definition for equipment, as stated in 45 CFR Parts 74 and 92, is an article of tangible nonexpendable personal property that has a useful life of more than one year and an acquisition cost of \$5,000 or more per unit. Items below \$5,000 are classified as supplies. If essential to the project, NASA CTSGC funds may be used for the purchase of supplies.

# **Prior Award Recipients**

Applications will not be accepted from applicants who received a Faculty Research Grant, or a STEM Education Research Grant from NASA CTSGC during the prior academic year. Please note, NASA CTSGC defines an academic year as beginning on or about September 1<sup>st</sup> and ending on or about August 31<sup>st</sup>.

#### **Funds Distribution**

- STEM Education Research, STEM Education Programming & Faculty Research Grants: Funds will
  be available upon successful completion of a sub-award to the master agreement between the
  grant awardee's institution and the University of Hartford, and then will be paid to grant awardee's
  institution to be distributed according to its policies related to faculty grants. Final payment will
  be made upon submission of all post-award reporting. Details will be conveyed within the award
  agreement.
- <u>Travel Grants</u>: Reimbursement will require the completion of a sub-award to the master agreement between the grant award recipient's institution and the University of Hartford. Reimbursement usually requires the submission of detailed, itemized receipts to the appropriate office at the affiliate Consortium campus. No travel advances will be allowed from Consortium funds. **International travel will not be supported from this grant.** Final payment will be made upon submission of all post-award reporting.
- Community College Quadcopter Challenge: Funds will be distributed in two payments to the
  faculty or student's institution; the institution will pay the student upon completion of a Subaward between the institution and the University of Hartford. An invoice must be sent to the NASA
  CTSGC Office to begin the payment process. The first payment will be 50% of the stipend at the
  beginning of research. The remaining balance will be paid upon submittal of all required postaward documentation.
- <u>Undergraduate Student-Faculty Research Grant</u>: Funds will be distributed in two payments to the faculty advisor's institution; the institution will pay the student upon completion of an appropriate agreement between the faculty advisor's institution and the student's institution. The first payment will be 50% of the stipend at the beginning of research. The remaining balance will be paid upon submittal of all required post-award documentation.

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#### **IMPORTANT NOTES**

All federal requirements pass through from the NASA CTSGC's lead institution, University of Hartford, to all awarded faculty grants. When preparing budget proposals, it may be helpful to reference the Office of Management and Budget Uniform Guidance link: <a href="https://www.nssc.nasa.gov/grants">https://www.nssc.nasa.gov/grants</a>.

\*Note to **University of Hartford faculty applicants**: Even though the Consortium accounting is handled through the University of Hartford, an internal subcontract will still be needed to ensure clarity of understanding of all the pass-through NASA grant requirements by all parties involved in NASA CTSGC research.

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# **Program Information**

# **Faculty Research Grant**

#### About this award

- **Award** To encourage faculty participation in research in areas related to the mission of NASA at Connecticut Space Grant Consortium member institutions, the Consortium will award faculty research grants during the program year. Research grants are available to support faculty, staff, and students in research pursuits.
- **Award Information** Refer to the NASA CTSGC website for the amount and number of awards available each program year. Since this is an institutional award, a subcontract for each institution will be executed.
- **Eligible Activities** Research in any area related to the mission of NASA as illustrated by its strategic enterprises and Mission Directorates.
- **Eligible Applicants** Full-time Faculty at Consortium Member Institutions who are U.S. Citizens are eligible to apply. Full-time research staff and associates are also eligible to apply.

Preference will be given to applicants who 1) are non-tenured and/or early career, 2) who use these funds as seed money, 3) who collaborate with other Consortium members (within CT), and 4) whose research involves/supports students.

Reminder: NASA Office of Management and Budget (OMB) mandates that only citizens of the United States of America may receive direct funding from any NASA Space Grant award. Direct funding for non-citizens must be comprised of institutionally matched funds or other non-federal funds. For further clarification, please see the Request for Proposals booklet available on our website. (Subpart A of 14 CFR Part 1260).

Eligible Budget Items – The budget may include items such as technician and support staff salaries, summer salaries, student stipends, fringe benefits, supplies, and materials. Faculty/staff salary and stipend (including fringe/benefits) may not exceed 50% of the award amount. No indirect costs may be charged to the NASA Grant, however indirect charges may be included within the matching contributions, but are limited. To avoid duplication with other Consortium Grant programs, travel may not be charged to a Faculty Research Grant. Reminder: Faculty who respond must show a 1:1 cost match ratio. For example, if you are responding to a \$10,000 research grant, your budget needs to show \$20,000 with a \$10,000 match and \$10,000 supplied by the Consortium. Equipment and Supplies – NASA CTSGC funds may not be used for equipment purchases. The definition for equipment, as stated in 45 CFR Parts 74 and 92, is an article of tangible nonexpendable personal property that has a useful life of more than one year and an acquisition cost of \$5,000 or more per unit. Items below \$5,000 are classified as supplies. If essential to the project, NASA CTSGC funds may be used for the purchase of supplies.

**Fund Distribution** – Funds will be available upon successful completion of a sub-award to the master agreement between the grant awardee's institution and the University of Hartford, and then will be paid to grant awardee's institution to be distributed according to its policies related to faculty grants. Final payment will be made upon submission of all post-award reporting. Details will be conveyed within the award agreement.

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#### Post award responsibilities

- **Reporting** A project report will be requested upon completion of the work. The required reporting format is available on the NASA CTSGC website. NASA CTSGC considers a successful project investment in the future of the researcher, their department and the institution. Therefore the following outcomes represent success: patents and published papers, increased institutional collaboration, and an increase in the number of proposal submissions. Each researcher is to inform the Consortium office of publications, patents and proposals that result from their receiving NASA CTSGC funding.
- **Student Participant Tracking** Tracking of all graduate and undergraduate student participants involved in the supported research is required. Please use the 'Direct Participant' form for each student.
- **Poster Session** Faculty will be required to furnish a research poster for an annual forum following the completion of their research. Details will be communicated closer to the date.
- **Public Information** This is a federal grant; therefore information such as title, abstract, names, institution and year will be posted on the NASA CTSGC website and will be kept there for an extended period of time.

# Apply for this award

Submit the application and additional forms via the links at ctspacegrant.org.

- Form 1. Applicant Contact/Demographic Information
  - \* This information is utilized for NASA reporting only.
- Form 2. **Proposal Information** 
  - a. **Proposal Abstract** (100 word maximum) includes information relating the proposed project to NASA's strategic enterprises and/or Mission Directorates.
  - b. Narrative 3,000 word maximum
    - i. Project goals and objectives
    - ii. Relevance to NASA's strategic goals
    - iii. Methods and procedures
    - iv. Timeline
    - v. Budget narrative
    - vi. Evidence of student involvement
    - vii. Expected outcomes and Assessment Plan
    - \* Consult the scoring rubric for more information on how proposals will be evaluated according to these criteria.
  - c. **Budget Worksheet** Please be sure to include a Budget Worksheet for each institution involved in collaboration grant proposals. *Reminder: Faculty must show a 1:1 cost match ratio.*
  - d. **Curriculum Vitae** One-page maximum. For collaborative proposals please submit a CV for each team member.

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#### **IMPORTANT REMINDERS:**

All federal requirements pass through from the NASA CTSGC's lead institution, University of Hartford, to all awarded faculty grants. When preparing budget proposals, it may be helpful to reference the Office of Management and Budget Uniform Guidance link: <a href="https://www.nssc.nasa.gov/grants">https://www.nssc.nasa.gov/grants</a>.

\*Note to **University of Hartford faculty applicants**: Even though the Consortium accounting is handled through the University of Hartford, an internal subcontract will still be needed to ensure clarity of understanding of all the pass-through NASA grant requirements by all parties involved in NASA CTSGC research.

# **Evaluation rubric**

Criteria	Evaluation	Max Score
Abstract	The abstract is clear, concise and gives the reader an excellent sense of the scope of the project.	5
Goals and objectives	The goals and objectives are clearly stated. There are compelling reasons offered to pursue the project.	10
Relevance to NASA's strategic goals	The proposed project is very relevant to one or more of NASA's strategic goals.	10
Methods and procedures	The proposal includes a detailed, well-written explanation of the proposed methods and procedures to achieve the project's goals and objectives. There is a strong link between the methodology and goals of the project.	15
Timeline and feasibility	The proposed timeline is clear, detailed, and closely aligned with the goals and objectives. Institutional support is strong. When applicable, equipment/resources are readily available.	10
Budget narrative and worksheet	There is a clear, detailed, budget plan, including a justification of expenditures for the proposed plan and a complete budgetary schedule for the length of the program.	10
Student involvement	Students play a significant role in the project and are included in the budget.	10
Expected outcomes & assessment plan	There is great potential for innovation, publications, or future funding. The proposal includes well-defined plan for disseminating findings. A clear, and well-defined assessment plan is included.	15
Collaboration	There is strong evidence of collaboration either across disciplines, across colleges/universities or with external partners.	5
Recent award	Never	5
FT and/or tenure status	The applicant is full-time and/or pre-tenure/early career.	5
		100

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#### **STEM Education Research Grant**

# **About this award**

Award Details – STEM Education Research: Successful applicants will show a plan to carry out research in the STEM Education field. This research may include, but is not limited to: K-12 Curriculum Development, K-12 or Higher Education STEM Outcomes, STEM Education Outreach Programs, or Social/Psychological Influences on STEM Education (e.g., gender disparities, educational access, career trajectories).

**Award Information** – Refer to the NASA CTSGC website for the award amount and number of awards available each program year.

Eligible Applicants – Full-time Faculty at Consortium Member Institutions who are U.S. Citizens are eligible to apply. Full-time staff and associates are also eligible to apply. Collaboration with K-12 or other informal education partners is appropriate; however, the PI must be an eligible faculty/staff member of an academic affiliate institution.

Preference will be given to applicants who 1) are non-tenured and/or early career, 2) who use these funds as seed money, 3) who collaborate with other Consortium members (within CT), and 4) whose research involves/supports students.

Reminder: NASA Office of Management and Budget (OMB) mandates that only citizens of the United States of America may receive direct funding from any NASA Space Grant award. Direct funding for non-citizens must be comprised of institutionally matched funds or other non-federal funds. For further clarification, please see the Request for Proposals booklet available on our website. (Subpart A of 14 CFR Part 1260).

Eligible Budget Items – The budget may include items such as technician and support staff salaries, summer salaries, student stipends, fringe benefits, supplies, and materials. Faculty/staff salary and stipend (including fringe/benefits) may not exceed 50% of the award amount. No indirect costs may be charged to the NASA Grant, however indirect charges may be included within the matching contributions, but are limited. To avoid duplication with other Consortium Grant programs, travel may not be charged to a STEM Education Research Grant or STEM Education Programming Grant. Reminder: Faculty who respond must show a 1:1 cost match ratio. For example, if you are responding to a \$10,000 research grant, your budget needs to show \$20,000 with a \$10,000 match and \$10,000 supplied by the Consortium. Equipment and Supplies – NASA CTSGC funds may not be used for equipment purchases. The definition for equipment, as stated in 45 CFR Parts 74 and 92, is an article of tangible nonexpendable personal property that has a useful life of more than one year and an acquisition cost of \$5,000 or more per unit. Items below \$5,000 are classified as supplies. If essential to the project, NASA CTSGC funds may be used for the purchase of supplies.

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- b. Narrative 3,000 word maximum
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  - \* Consult the scoring rubric for more information on how proposals will be evaluated according to these criteria.
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# **Evaluation rubric**

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Abstract	The abstract is clear, concise and gives the reader an excellent sense of the scope of the project.	5
Goals and objectives	The goals and objectives are clearly stated. There are compelling reasons offered to pursue the project.	15
Relevance to NASA's strategic goals	The proposed project is very relevant to one or more of NASA's strategic goals.	10
Methods and procedures	The proposal includes a clear and detailed plan to carry out research in STEM education including but not limited to K-12 curriculum development, K-12 higher education STEM education outcomes, or STEM education outreach programs. There is a clear link between methodology and goals of the project.	10
Timeline and feasibility	The proposed timeline is clear, detailed, and closely aligned with the goals and objectives. Institutional support is strong. When applicable, equipment/resources are readily available.	10
Budget narrative and worksheet	There is a clear, detailed, budget plan, including a justification of expenditures for the proposed plan and a complete budgetary schedule for the length of the program.	10
Student involvement	Students play a significant role in the project and are included in the budget.	5
Expected outcomes & assessment plan	There is great potential for innovation, publications, or future funding. The proposal includes well-defined plan for disseminating findings. A clear, and well-defined assessment plan is included.	15
Collaboration & interdisciplinary approach	There is strong evidence of collaboration either across disciplines, across colleges/universities or with external partners.	5
Recent award	Never	10
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# **STEM Education Programming Grant**

# **About this award**

Award Details – STEM Education Programming: Successful applicants will show a plan to undertake and complete programming related to the STEM Education field. Funding may be used to support one-time or repeated initiatives that collaborate with other educational, industrial or institutional partners (i.e., high schools, science centers, museums, colleges, businesses) to educate and increase exposure of students to an aspect of STEM education (e.g., careers, fields of study, research, history, emerging technologies). Examples include (but are not limited to) funding to bring a speaker to a high school, develop a program at a museum, hold a science and technology fair, or host a symposium. Applicants must show a plan for implementation, documentation of support of other partners, and methodology for assessment of programmatic outcomes.

**Award Information** – Refer to the NASA CTSGC website for the award amount and number of awards available each program year.

Eligible Applicants – Full-time Faculty at Consortium Member Institutions who are U.S. Citizens are eligible to apply. Full-time staff and associates are also eligible to apply. Collaboration with K-12 or other informal education partners is appropriate; however, the PI must be an eligible faculty/staff member of an academic affiliate institution.

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Eligible Budget Items – The budget may include items such as technician and support staff salaries, summer salaries, student stipends, fringe benefits, supplies, and materials. Faculty/staff salary and stipend (including fringe/benefits) may not exceed 50% of the award amount. No indirect costs may be charged to the NASA Grant, however indirect charges may be included within the matching contributions, but are limited. To avoid duplication with other Consortium Grant programs, travel may not be charged to a STEM Education Research Grant or STEM Education Programming Grant. Reminder: Faculty who respond must show a 1:1 cost match ratio. For example, if you are responding to a \$10,000 research grant, your budget needs to show \$20,000 with a \$10,000 match and \$10,000 supplied by the Consortium. Equipment and Supplies – NASA CTSGC funds may not be used for equipment purchases. The definition for equipment, as stated in 45 CFR Parts 74 and 92, is an article of tangible nonexpendable personal property that has a useful life of more than one year and an acquisition cost of \$5,000 or more per unit. Items below \$5,000 are classified as supplies. If essential to the project, NASA CTSGC funds may be used for the purchase of supplies.

**Fund Distribution** – Funds will be available upon successful completion of a sub-award to the master agreement between the grant awardee's institution and the University of Hartford, and then will be paid to grant awardee's institution to be distributed according to its policies related to faculty grants. Final payment will

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be made upon submission of all post-award reporting. Details will be conveyed within the award agreement.

# Post award responsibilities

- **Reporting** A project report will be requested upon completion of the work. The required reporting format is available on the NASA CTSGC website. NASA CTSGC considers a successful project investment in the future of the researcher, their department and the institution. Therefore the following outcomes represent success: patents and published papers, increased institutional collaboration, and an increase in the number of proposal submissions. Each researcher is to inform the Consortium office of publications, patents and proposals that result from their receiving NASA CTSGC funding.
- **Student Participant Tracking** Tracking of all graduate and undergraduate student participants involved in the supported project is required. Please use the 'Direct Participant' form for each student.
- **Poster Session** Faculty will be required to furnish a research poster for an annual forum following the completion of their research. Details will be communicated closer to the date.
- **Public Information** This is a federal grant; therefore information such as title, abstract, names, institution and year will be posted on the NASA CTSGC website and will be kept there for an extended period of time.

#### Apply for this award

Submit the application and additional forms via the links at ctspacegrant.org.

#### Form 1. Applicant Contact/Demographic Information

\* This information is utilized for NASA reporting only.

#### Form 2. **Proposal Information**

- a. **Proposal Abstract** (100 words maximum) includes information relating the proposed project to NASA's strategic enterprises and/or Mission Directorates.
- b. Narrative 3,000 word maximum
  - i. Project goals and objectives
  - ii. Relevance to NASA's strategic goals
  - iii. Methods and procedures
  - iv. Timeline
  - v. Budget narrative
  - vi. Evidence of student involvement
  - vii. Expected outcomes and Assessment Plan
  - \* Consult the scoring rubric for more information on how proposals will be evaluated according to these criteria.
- c. **Budget Worksheet** Please be sure to include a Budget Worksheet for each institution involved in collaboration grant proposals. *Reminder: Faculty must show a 1:1 cost match ratio*.

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d. **Curriculum Vitae** – One-page maximum. For collaborative proposals please submit a CV for each team member.

#### **IMPORTANT REMINDERS**

All federal requirements pass through from the NASA CTSGC's lead institution, University of Hartford, to all awarded faculty grants. When preparing budget proposals, it may be helpful to reference the Office of Management and Budget Uniform Guidance link: <a href="https://www.nssc.nasa.gov/grants">https://www.nssc.nasa.gov/grants</a>.

\*Note to **University of Hartford faculty applicants**: Even though the Consortium accounting is handled through the University of Hartford, an internal subcontract will still be needed to ensure clarity of understanding of all the pass-through NASA grant requirements by all parties involved in NASA CTSGC research.

# **Evaluation rubric**

Criteria	Evaluation	Max Score
Abstract	The abstract is clear, concise and gives the reader an excellent sense of the scope of the project.	5
Goals and objectives	The goals and objectives are clearly stated. There are compelling reasons offered to pursue the project.	10
Relevance to NASA's	The proposed project is very relevant to one or more of NASA's strategic	10
strategic goals	goals.	
Methods and procedures	The proposal shows a clear, feasible and well-defined plan for implementation, documentation of support of other partners, and methodology for assessment of programmatic outcomes. There is a clear and well-supported link between programming, educational plans, and the designated goal of increasing exposure of students to a specific aspect of STEM education.	15
Timeline and feasibility	The proposed timeline is clear, detailed, and closely aligned with the goals and objectives. Institutional support is strong. When applicable, equipment/resources are readily available.	10
Budget narrative and worksheet	There is a clear, detailed, budget plan, including a justification of expenditures for the proposed plan and a complete budgetary schedule for the length of the program.	10
Student involvement	Students play a significant role in the project and are included in the budget.	5
Expected outcomes & assessment plan	There is great potential for innovation, publications, or future funding.  The proposal includes well-defined plan for disseminating findings. A clear, and well-defined assessment plan is included.	15
Collaboration & interdisciplinary approach	There is strong evidence of collaboration either across disciplines, across colleges/universities or with external partners.	5
Recent award	Never	10
FT and/or tenure status	The applicant is full-time and/or pre-tenure/early career.	5
	·	100

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## **Travel Grants**

# About this award

- **Award Details** To encourage travel to NASA facilities to use their unique resources, and present Space Grant and NASA funded research at conferences, the NASA CTSGC awards travel grants. During the Space Grant program year, the Consortium expects to award multiple travel grants, based upon available funding.
- **Award Information** Refer to NASA CTSGC website for the amount and number of awards available each program year. Since this is an institutional award, a subcontract for each institution will be executed
- Eligible Travel Domestic travel supported by travel grants may include, but is not limited to, trips to NASA facilities to use specialized research equipment, trips to NASA Centers to discuss collaborations with NASA scientists and engineers, attendance at pre-proposal conferences sponsored by NASA, presentation of Space Grant funded research at conferences, giving plenary or invited papers at conferences, visits by NASA scientists/engineers to campuses for research collaboration. NASA CTSGC only supports domestic travel.
- **Eligible Applicants** Full-time Faculty at Consortium Member Institutions who are U.S. Citizens are eligible to apply. Full-time research staff and associates are also eligible to apply.
- **Budget** Travel may be funded up to a maximum of \$1,000 (the Consortium reserves the right to adjust funding requests based upon the number and quality of applications). Funds will be paid to the grant awardees' institution at the conclusion of the trip on a reimbursement basis after submission of receipts to the awardee's affiliate office. No travel advances are allowed. *Reminder: Faculty who respond must show a 1:1 cost match ratio. For example, if you are responding to a \$1,000 travel grant, your budget needs to show \$2,000 with a \$1,000 match and \$1,000 supplied by the Consortium.*

#### Post award responsibilities

- Reporting A project report will be requested upon completion of the travel. The required reporting format is available on the NASA CTSGC website. NASA CTSGC considers a successful project investment in the future of the researcher, their department and the institution. Therefore the following outcomes represent success: patents and published papers, increased institutional collaboration, and an increase in the number of proposal submissions. Each researcher is to inform the Consortium office of publications, patents and proposals that result from their receiving NASA CTSGC funding.
- **Student Participant Tracking** Tracking of all graduate and undergraduate student participants involved in the supported project/travel is required. Please use the 'Direct Participant' form for each student.
- **Poster Session** Faculty will be required to furnish a research poster for an annual forum following the completion of their research. Details will be communicated closer to the date.

Public Information - This is a federal grant; therefore information such as title, abstract, names,

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institution and year will be posted on the NASA CTSGC website and will be kept there for an extended period of time.

# Apply for this award

Submit the application and additional forms via the links at ctspacegrant.org

## Form 1. Applicant Contact/Demographic Information

\* This information is utilized for NASA reporting only.

# Form 2. **Proposal Information**

- a. **Proposal Abstract** (100 word maximum) includes information relating the proposed project to NASA's strategic enterprises and/or Mission Directorates.
- b. Narrative 1,000 word maximum. Outline description and rationale for the travel, and how you will fund the travel if you do not receive full Space Grant funding.
  - \* Consult the scoring rubric for more information on how proposals will be evaluated according to these criteria.
- c. **Invitation/Other Supporting Materials** Upload supporting documents such as letter or conference paper acceptance notice, invitation to speak, etc.
- d. **Budget Worksheet** Please be sure to include a Budget Worksheet for each institution involved in collaboration grant proposals. *Reminder: Faculty must show a 1:1 cost match ratio.*
- e. **Curriculum Vitae** One-page maximum. For collaborative proposals please submit a CV for each team member.

#### **IMPORTANT REMINDERS**

All federal requirements pass through from the NASA CTSGC's lead institution, University of Hartford, to all awarded faculty grants. When preparing budget proposals, it may be helpful to reference the Office of Management and Budget Uniform Guidance link: <a href="https://www.nssc.nasa.gov/grants">https://www.nssc.nasa.gov/grants</a>.

\*Note to **University of Hartford faculty applicants**: Even though the Consortium accounting is handled through the University of Hartford, an internal subcontract will still be needed to ensure clarity of understanding of all the pass-through NASA grant requirements by all parties involved in NASA CTSGC research.

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# **Evaluation rubric**

Criteria	Evaluation	Max Score
Abstract	The abstract is clear, concise and gives the reader an excellent sense of the scope of the project.	5
Purpose of the travel	There is a clear and detailed description of and rationale for travel, including an invitation to participate and/or other supporting material.	15
Relevance to NASA's strategic goals	The proposed travel is very relevant to one or more of NASA's strategic goals.	15
Goals and objectives	The goals and objectives of the travel are clearly stated. There are compelling reasons offered to pursue the travel.	10
Timeline	The proposed timeline is clear and detailed timeline of travel, including a feasible schedule for achieving teaching, research, or future funding outcomes related to travel.	10
Budget narrative and worksheet	There is a clear, detailed budget plan, including a justification of expenditures for the proposed plan and a complete budgetary schedule for the length of the program.	15
Expected outcomes	There is great potential for travel to positively impact research, teaching, or future funding. The proposal includes a well-defined plan for achieving outcomes and the PI has a demonstrated record of output.	20
Recent award	Never OR Travel compliments previous award.	10
		100

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# **Community College Quadcopter Challenge**

#### **About this program**

The goal of the Community College Quadcopter Challenge (CCQC) is to support a community college based programs in order to improve STEM recruitment and retention, primarily of underserved populations. This program is designed to:

- 1. Increase the number of community college students who graduate with STEM degrees and/or transfer to STEM programs at 4-year institutions,
- 2. Increase the ability of community college faculty members to deliver aerospace-related content in areas of interest to NASA, and
- 3. Enhance the diversity (race/ethnicity and gender) of students pursing STEM fields at Connecticut community colleges.

These objectives will be accomplished by the use of small model quadcopters in competitions between student design groups from the Connecticut community colleges. Faculty advisors from our Academic Affiliate community colleges will lead these design groups.

- Award Five teams will be supported to participate in the CCQC. Teams of five students will be selected to participate, each advised by a community college faculty member. The NASA CTSGC will make available a special RFP for this challenge with all the requirements. The document can be found on the NASA CTSGC website.
- Eligible Applicants <u>Faculty</u>: Full-time faculty or research staff at Consortium Member Community Colleges who are U.S. Citizens are eligible to apply. <u>Student</u>: Community college student applicants must be full-time students at the advisor's institution with a minimum GPA of 3.0 or higher. Up to five students per team. The team make-up must reflect the NASA CTSGC diversity goals at least 40% women and at least 20% under represented.

Please note: NASA Office of Management and Budget (OMB) mandates that only citizens of the United States of America may receive direct funding from any NASA Space Grant award. Direct funding for non-citizens must be comprised of institutionally matched funds or other non-federal funds. For further clarification, please see the Request for Proposals booklet available on our website. (Subpart A of 14 CFR Part 1260).

#### Post award responsibilities

- **Reporting** Two reports must be completed at the end of the challenge. Students must submit a technical report, and the faculty advisor must complete the Higher Education Project report. The required reporting format is available on the NASA CTSGC website.
- **Student Participant Tracking** Tracking of student participants involved in the supported project is required. Please use the 'Direct Participant' form for each student.
- **Demonstration Day** Faculty and students will be required to participate in the Challenge Day, to demonstrate their work at a location set by the Consortium Director late in the Spring Semester.
- **Poster Session** The winning team will be required to furnish a joint research/project poster for an annual forum following the completion of the competition. Details will be communicated closer to the date.

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**Public Information** – This is a federal grant; therefore information such as title, abstract, names, institution and year will be posted on the NASA CTSGC website and will be kept there for an extended period of time.

# Apply for this award

A Letter of Intent must be submitted to the CTSGC office. Following acceptance of the LOI, a joint student/faculty application must be submitted by the faculty advisor, following NASA CTSGC websubmission guidelines. (This information will be communicated to you from the CTSG Office.) Required components of the application will be available through a special RFP with all the details stipulated on the NASA CTSGC website.

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# **Undergraduate Student – Faculty Research Grant**

## About this award

To encourage undergraduate student engagement in the research process, NASA CTSGC has created a Student-Faculty Research Project Grant. This grant will enable undergraduate students to gain meaningful research experience in NASA CTSGC Affiliate research laboratories in areas consistent with the mission of NASA as exemplified by its four strategic enterprises, or Mission Directorates. They are Aeronautics Research, Human Exploration and Operations, Science, and Space Technology.

The award will support two undergraduate students (1 from a 4-year institution and the other from a community college) with a stipend and provide a small stipend for the faculty advisor. If the research is happening over the summer, the project should span a minimum of 8-weeks in length, where students work full-time on the project. If the project is to be completed during the academic year, students and PI must present a plan to obtain approximately 320 hours of commitment to the project.

- **Award Information** Refer to the NASA CTSGC website for the amount and number of awards available each program year. Since this is an institutional award, a subcontract for each *lead institution* will be executed.
- **Eligible Activities** Research in any area related to the mission of NASA as illustrated by its strategic enterprises.
- Eligible Applicants Faculty: Full-time faculty or research staff at Consortium Member Institutions who are U.S. Citizens are eligible to apply. Student: Undergraduate student applicants must be full-time students at the time of application at one of the Consortium Member Institutions with a minimum GPA of 3.0 or higher.

Please note: NASA Office of Management and Budget (OMB) mandates that only citizens of the United States of America may receive direct funding from any NASA Space Grant award. Direct funding for non-citizens must be comprised of institutionally matched funds or other non-federal funds. For further clarification, please see the Request for Proposals booklet available on our website. (Subpart A of 14 CFR Part 1260).

Eligible Budget Items – The budget is limited to include only student (\$6,000 per student) and faculty/staff stipend (\$1,000, including fringe and benefits). No indirect costs may be charged to the grant, however indirect charges may be included within the matching contributions, but are limited. When preparing budget proposals, it may be helpful to reference the Office of Management and Budget Uniform Guidance link: <a href="https://www.nssc.nasa.gov/grants">https://www.nssc.nasa.gov/grants</a>.

<u>Please Note</u>: Faculty must show a minimum \$7,500 cost match within the budget. Cost match may include direct costs for additional students or staff, or in-kind match such as lab space, equipment rental, equipment & supplies, and mentoring time (above and beyond the equivalent of \$1,000 stipend.)

#### Post award responsibilities

**Reporting** – A project report will be requested upon completion of the work. The required reporting format is available on the NASA CTSGC website. NASA CTSGC considers a successful project investment in the future of the researcher, their department and the institution. Therefore the

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following outcomes represent success: patents and published papers, increased institutional collaboration, and an increase in the number of proposal submissions. Each researcher is to inform the Consortium office of publications, patents and proposals that result from their receiving NASA CTSGC funding.

- **Student Participant Tracking** Tracking of all graduate and undergraduate student participants involved in the supported research is required. Please use the 'Direct Participant' form for each student.
- **Poster Session** The faculty/student team will be required to furnish a research poster for an annual forum following the completion of their research. Details will be communicated closer to the date.
- **Public Information** This is a federal grant; therefore information such as title, abstract, names, institution and year will be posted on the NASA CTSGC website and will be kept there for an extended period of time.

#### Apply for this award

A joint student/faculty application must be submitted by the faculty member, via the links at ctspacegrant.org.

**Attention Faculty PI**: If you need assistance in recruiting a community college student to work on your team, (1) please complete the Student-Faculty Summer Research Project proposal form, located on the NASA CTSG website and (2) forward this document to the NASA CTSG Office <u>and</u> campus directors for local community colleges (contact information available on NASA CTSGC website).

- Form 1. **Applicant Contact/Demographic Information** This form is needed for both the faculty and participating students. If students have not yet been identified by the time of application, please contact the NASA CTSGC Office.
  - \* This information is utilized for NASA reporting only.

# Form 2. Faculty Proposal Information

- a. **Proposal Abstract** (100 word maximum) includes information relating the proposed project to NASA's strategic enterprises and/or Mission Directorates.
- b. **Narrative** 3,000 word maximum. The narrative should include the following:
  - i. Project goals and objectives
  - ii. Relationship to NASA's strategic goals
  - iii. Methodology
  - iv. Timeline
  - v. Role of student researchers
  - vi. Expected outcomes
- c. **Budget Worksheet:** Download the Budget Worksheet from NASA CTSGC website. *Reminder: Faculty must show a minimum \$7,500 cost match.*

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- d. Curriculum Vitae: One page maximum.
- Form 3. Student Proposal Information Each student must individually submit the following
  - a. Narrative 500 word maximum. Please include the following sections
    - i. Purpose and objectives
    - ii. Career potential
  - b. **Student Transcript** Official is preferred; however, unofficial is acceptable.
  - c. **Resume/Curriculum Vitae** One page maximum. For team proposals please submit a resume/C.V. for each team member.

#### **IMPORTANT REMINDERS**

All federal requirements pass through from the NASA CTSGC's lead institution, University of Hartford, to all awarded faculty grants. When preparing budget proposals, it may be helpful to reference the Office of Management and Budget Uniform Guidance link: <a href="https://www.nssc.nasa.gov/grants">https://www.nssc.nasa.gov/grants</a>.

\*Note to **University of Hartford faculty applicants**: Even though the Consortium accounting is handled through the University of Hartford, an internal subcontract will still be needed to ensure clarity of understanding of all the pass-through NASA grant requirements by all parties involved in NASA CTSGC research.

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# National Space Grant Program Goal and Objectives



#### Goal:

Contribute to the nation's science enterprise by funding education, research, and public service projects through a national network of university-based Space Grant consortia.

# **Objectives:**

- 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.
- Promote a strong science, mathematics, and technology education base from elementary through secondary levels.

#### **IMPORTANT RESOURCES**

NASA Education – Outcomes: <a href="http://www.pc.spacegrant.org/Outcomes.pdf">http://www.pc.spacegrant.org/Outcomes.pdf</a>

NASA Strategic Goals and Objectives relevant to education are outlined by the 2015-2017

NASA Education Implementation Plan:

http://www.nasa.gov/sites/default/files/atoms/files/nasa\_education\_implementation\_plan\_ve4\_2015-2017.pdf

For information on all of NASA's missions, please visit: <a href="http://www.nasa.gov/missions/index.html">http://www.nasa.gov/missions/index.html</a> NASA <a href="http://www.nasa.gov">http://www.nasa.gov</a>/missions/index.html

NASA Office of Education: <a href="http://www.nasa.gov/offices/education/about/index.html">http://www.nasa.gov/offices/education/about/index.html</a>

NASA Space Grant Program Office:

http://www.nasa.gov/offices/education/programs/national/spacegrant/home/index.html

National Center for Education Statistics (NCES) enrollment for your state:

http://nces.ed.gov/programs/digest/d14/

Vision for Space Exploration <a href="http://www.nasa.gov/missions/solarsystem/explore\_main.html">http://www.nasa.gov/missions/solarsystem/explore\_main.html</a>

NASA Centers & Facilities: http://www.nasa.gov/offices/education/centers/index.html

Guidebook for Proposers Responding to a NASA Research Announcement

http://www.hq.nasa.gov/office/procurement/nraguidebook

FEDERAL UNIFORM GUIDANCE: All federal requirements pass through from the CT Space Grant Consortium's lead institution, University of Hartford, to all awarded faculty grants. When preparing budget proposals, it may be helpful to reference the Office of Management and Budget Uniform Guidance link: <a href="https://www.nssc.nasa.gov/grants">https://www.nssc.nasa.gov/grants</a>.