



## About the GMIS Research Poster Competition

Each year at the GMIS Conference, college students have the opportunity to showcase their latest research findings through a poster presentation to STEM professionals. Students are encouraged to present individual and unclassified research - dissertation, thesis, senior project, or co-op, internship or research experiences. Students may earn monetary prizes and be recognized at the Student Leadership Awards Show. Furthermore, students can further enhance their job search as competition judges may be looking for technical talent to recruit into graduate programs, research labs, summer internships, co-ops, or full-time employment.

The purpose of the GMIS Research Poster Competition is to:

- Provide a premiere, national forum for traditionally underserved and underrepresented STEM undergraduate and graduate students to showcase their technical research talent
- Challenge students to communicate their research with a balanced technical/lay audience perspective
- Stimulate interest in scientific and technical research
- Encourage networking among students as Research Scholars and with STEM professionals with similar research interests
- Increase public awareness of the relevance of STEM research and its benefits to society

## The 2021 Virtual GMIS Research Poster Competition

The 2021 GMIS Research Poster Competition (RPC) will be held virtually on Thursday, October 14 (Graduate Students) and Friday, October 15 (Undergraduate Students). During a face-to-face competition, a poster session is a printed presentation of an author's research pinned to a board. For the virtual competition, the poster session will be presented live via Zoom. Presenters will present their poster/abstract in one of two categories – **Research Poster Category** or **Conceptual Abstract Category**. All entries will also be showcased in the virtual Research Scholars Exhibit Hall.

The **Research Poster Category** invites undergraduate and graduate students, from traditionally underrepresented groups in STEM, to submit an abstract and present a poster on their ongoing/current research project. Participants in this category will have the option to submit a three-minute YouTube video presentation of their poster. Finalists will virtually present their

research to a judges panel of STEM professionals from industry, academia, and government agencies.

The **Conceptual Abstract Category** invites undergraduate and graduate students, from traditionally underrepresented groups in STEM, whose research was adversely impacted by COVID-19, to submit a well-written and concise abstract on their *proposed* science, engineering, computing, technology or health-related research project. The research project might have been a project that was never started, has been delayed to this fall or next spring, or is the beginning of your senior design, thesis or dissertation work. Finalists will virtually present their conceptual abstract to a judges panel of STEM professionals from industry, academia, and government agencies.

Element	Research Poster Category	Conceptual Abstract Category
Abstract	Required	Required, very well-defined and concise
Poster	Required	Optional
Video	Optional	Optional
Virtual Judging Panel	Required	Required
Judging Content	Abstract, Poster and Presentation	Abstract and Presentation
Photo (For Research Scholars Exhibit Hall)	Required	Required

### Competition Eligibility

- Must be from an underrepresented racial/ethnic group
- Enrolled full-time in a graduate or undergraduate college or university pursuing studies in a related science, technology, engineering, math or health discipline at a college/university in the U.S./U.S. territories.
- Must have a paid (or complimentary) GMiS Conference registration
- Entries are limited to individual research and not research project teams (i.e. the recognized competitor must be a single individual and not a team)

### Content Submission and Conference Registration Process

**STEP 1:** Register for the virtual 2021 GMiS Conference. Conference registration is required to participate in the virtual 2021 GMiS Research Poster Competition. Please visit the 2021 GMiS Conference website at <https://www.gmisconference.org/>

**STEP 2:** Submit your abstract, poster, and video link through the GMiS Research Scholars Portal, which is **only accessible** through the Conference Portal after you register for the conference. Be

mindful of the deadlines to submit each required/optional component. Submissions are accepted in the Topic Categories listed below.

Classification	Research Poster Category	Conceptual Abstract Category
Undergraduate	Computer Engineering/Computer Science	
	Engineering and Technology	
	Math and Science	
Graduate	Computer Engineering/Computer Science	
	Engineering and Technology	
	Math and Science	

In the event a student is not selected to participate in the Competition, GMiS encourages the student to attend the Conference and participate in the various programs, such as the two-day virtual Career Fair, Hospitality Suites, Speed Networking Sessions, and webinars.

### Registration Fee

The virtual 2021 GMiS Conference student registration fee for the **GMiS All-Access Pass** is \$125.

### Cancellation

If a student chooses to cancel the registration for the Conference, he/she must log into the GMiS Conference Registration Portal and select “cancel” for the registration. This cancellation will trigger a reimbursement to the student’s credit card minus an administrative processing fee. Full refund for registration fees (minus administrative fees) will be allowed if requested prior to the cancellation deadline. **No cancellations will be processed after that deadline, so please plan accordingly.**

The last day to cancel and request a refund is **Friday, September 10.**

### Virtual Research Scholars Exhibit Hall

As part of the student experience, GMiS will host a virtual **Research Scholars Exhibit Hall** to showcase the excellence in research innovation and design processes. This virtual hall will host all the abstracts, posters, presentations, video links, and contact information for the presenters. Conference attendees will have access to the Research Scholars Exhibit Hall to read the abstracts, view the posters, listen to the presentation videos and contact the presenter for follow-up discussion questions on their research.

## Timeline

Friday, September 10	Last day to cancel GMiS Conference registration and request an online refund
<b>Friday, September 17 11:59 PM PDT</b>	<b>Abstract Submission Deadline for the Conceptual Abstract Category and the Research Poster Category</b>
Friday, October 1	Presenter confirmation by GMiS begins
Friday, October 8	Last day to register for the virtual GMiS Conference
Thursday, October 14 1:00 PM – 3:30 PM PDT	Virtual Graduate Student Presentations to Judges <i>Presenters submit their poster presentations for the Research Scholars Exhibit Hall</i>
Friday, October 15 9:00 AM – 12:00 PM PDT	Virtual Undergraduate Student Presentations to Judges <i>Presenters should submit their poster presentations for the Research Scholars Exhibit Hall</i>

## Awards

Top prizes will be presented to students who are recognized for having the best **Conceptual Abstract** or **Research Poster** based on both technical merit and presentation as determined by a panel of judges. Submissions are accepted in the categories listed below.

## Abstract Guidelines

The length of the extended abstract must be between 775 – 800 words. Graphics, drawings, or tables are not permitted in the abstract. The abstract should be a concise summary of the proposed research project (**Conceptual Abstract Category**) or research in progress (**Research Poster Category**) and meet criteria as outlined in the Judges Scorecard. The abstract will be evaluated on both the merit of its content and grammar/formatting.

Authors are strongly encouraged to review their abstract prior to submission and ensure that proper spelling and grammar have been utilized and that all italicization, math and scientific notations, etc. are correct. GMiS reserves the right to make any formatting edits to the abstract **only** for the sole purpose to fit any Research Poster Competition Proceedings.

The **Abstract Format** must adhere to the following:

- Typed, Single-spaced
- 1-inch margins
- Times New Roman, with 11 or 12-pt font (except for header requirements)

The **Abstract Heading** must adhere to the following:

- Title of Project (Bold, Centered, Times New Roman, 14 pt)
- Author(s) (Centered, Times New Roman, 12 pt)

- The project/research advisor should be included
- Institution, Department, City, State, Zip (Centered, Times New Roman, 12 pt)
  - If the authors are from different institutions, please add a superscript number to the matching author and matching institution
- Keywords: List five (5) keywords for indexing

The **Abstract Content** should include:

- Introduction
- Hypothesis or Intent
- Proposed or Actual Materials and Methods
- Predicted or Actual Results
  - If research results are not available at the time of the submission, authors are encouraged to submit predicted results based on peer-reviewed scientific literature.
  - Authors are encouraged to discuss differences between their hypothesized results and their actual results when presenting their research.
- Summary/Conclusion
- List of Cited References (APA 7<sup>th</sup> Ed. format; does not count towards word count)

*Sample Abstract Header*

**A Physics-Based Simulation Study of Tensegrity Damping Strategies for Controlled Hopping on Small Solar System Bodies**

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*Keywords:* Hedgehog, Tensegrity, Microgravity, Damping Strategies, NTRT

**Virtual Poster Format and Resources – Research Poster Category**

This section applies to authors, who are participating in the **Research Poster Category**. The format of the virtual poster is at the discretion of the presenter. However, it should be sufficient to technically explain and illustrate the research project to the public and the judges. A traditional in-person poster is formatted horizontally and sized 48 ft x 36 ft. You may consider this size to begin the format of your poster.

Presenters should carefully critique the content and arrangement of their poster. The flow of information in the poster layout should be done in a way that easily reveals the research process and addresses salient points. Graphs, charts, tables and references must adhere to APA 7th Ed. formatting. Avoid the use of “whiz bang” pictures that are visually attractive, yet do not add much to the content. At minimum, it is recommended that the poster contain the following sections:

- Abstract
- Introduction
- Background
- Problem Statement
- Hypothesis
- Proposed or Actual Testing (Procedure)
- Results
- Conclusion
- References

Presenters are encouraged to cite the sponsorship of their work, such as corporations or government agencies. Relevant resources to the work should be recognized and cited. Presenters are also encouraged to list their mentors.

### Poster Resources

There are many resources regarding designing a good research poster. Here are two resources:

- *Making a Better Research Poster* - [https://www.youtube.com/watch?v=AwMFhyH7\\_5g](https://www.youtube.com/watch?v=AwMFhyH7_5g)
- *Poster Presentations* - <https://www.youtube.com/watch?v=-62rK6htjWE>

### Videos

The video is **optional** for students, who were accepted to present in the **Research Poster Category** or **Conceptual Abstract Category**. This will not be part of the judging. Rather, the video will allow conference attendees to virtually engage with the presenter and learn more about the project than what is already presented in the abstract and poster.

The video should be no more than 5 minutes and the preferred link is a YouTube Channel link.

### Video Resources

Here are links to resources regarding how to record a presentation video and how to upload your video to YouTube and obtain a video link.

- How to Record Audio on Microsoft PowerPoint - <https://youtu.be/gk7l1FJB35s>
- How to Use Zoom to Record You and Your Screen Simultaneously - <https://youtu.be/gk7l1FJB35s>
- How To Upload Videos To YouTube 2020 - [https://youtu.be/qzpG\\_MkIPuY](https://youtu.be/qzpG_MkIPuY)

## Judging - Virtual

Authors, whose abstract has been accepted for either the **Conceptual Abstract Category** or the **Research Poster Category** will virtually present their work to a panel of judges via Zoom. **Only the sole author may present his/her work.** No substitutions will be allowed under any condition. Mentors are not allowed to co-present. Teams are not allowed to present. Remember, this is an individual competition and **not a team competition.**

Authors will have 10 minutes to concisely present the content of their research, uninterrupted by the judges. An additional five minutes will be allocated for questions from the judges.

Each abstract and poster will be reviewed based on the two principles - Intellectual Merit and Broader Impact – as outlined by the National Science Foundation. Abstracts and posters will also be evaluated on the overall writing, content and presentation.

According to the National Science Foundation's *Building the Future: Investing in Discovery and Innovation - NSF Strategic Plan for Fiscal Years (FY) 2018 - 2022 and Proposal & Award Policies & Procedures Guide*, successful projects demonstrate Intellectual Merit and Broader Impact if the following questions are succinctly addressed:

### **Intellectual Merit - The Potential to Advance Knowledge**

- What is the potential for the proposed activity to advance knowledge and understanding within its own field or across different fields? (NEED)
- To what extent do the proposed activities suggest and explore creative, original, or potentially transformative concepts? (HYPOTHESIS)
- Is the plan for carrying out the proposed activities well-reasoned, well-organized, and based on a sound rationale? (METHODS)
- Does the plan incorporate a mechanism to assess success? (RESULTS)
- How well qualified is the individual, team, or organization to conduct the proposed activities?

### **Broader Impact - The Potential to Benefit Society Beyond Increasing Knowledge**

- What is the potential for the proposed activity to benefit society or advance desired societal outcomes?

## Information Release and Disclaimer

Abstracts, posters, and videos presented at the GMiS Conference must not be classified. It is the author's responsibility to obtain all requisite permissions to release the information presented in the research poster. By participating in the virtual 2021 Great Minds in STEM Research Poster Competition, the author grants permission to Great Minds in STEM to publish and release, in whole or in part, information about the research concept presented in the abstract, poster, or video, as well as the participant photograph, contact information, and institutional and/or

employer affiliation, and other such information for audio, video, print and social media. Abstracts, posters and videos must be original in content, and must have all the proper citations and permissions to present.

### Contact Information

For further information, please email [posters@greatmindsinstem.org](mailto:posters@greatmindsinstem.org) or visit <https://posters.gmis-scholars.org/>