

## 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 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 2020 Virtual GMiS Research Poster Competition

GMiS realizes that COVID-19 may have adversely impacted the start or continuation of research projects. To broaden the participation in this competition, GMiS is excited to introduce an additional presentation category to this year's competition. The new category is **Conceptual Research**.

The **Conceptual Research Category** invites undergraduate and graduate students, from traditionally underrepresented groups in STEM, 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 this summer, has been delayed to this fall or next spring, or is the beginning of your senior design, thesis or dissertation work. Students will have the opportunity to virtually present their conceptual research to a panel of judges.

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

### Attention CAHSI Virtual REU Students

You are required to submit a Poster Presentation and a Video. No abstract is required. You must submit your poster and YouTube video link through the GMiS Research Scholars Portal at <https://posters.gmis-scholars.org/>

Please refer to pages 6-7 for resources on how to design your poster and prepare your video.

CAHSI will provide separate information on the VREU Competition Process including the presentation date/time.

**CAHSI vREU**

In addition to expanding its presentation categories, GMIS welcomes the cohort of **CAHSI vREU Students**, who for the first time, are embarking on virtual Research Experiences for Undergraduates this Fall 2020. This group of students will have the opportunity to showcase their posters and videos in the Virtual Research Scholars Exhibit Hall along with all the other competition participants.

Element	Conceptual Research Category	Research Poster Category	CAHSI vREU Category
Abstract Required	Yes, well-defined and concise	Yes	No
Poster Required	No	Yes	Yes
Video Required	No	Optional	Yes
Virtual Judging Panel	Yes	Yes	TBD
Judging Content	Abstract and Presentation	Abstract, Poster and Presentation	Poster and Video

**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.

**Content Submission and Conference Registration Process**

**STEP 1:** Submit your abstract, poster, video link, and photo through the GMIS Research Scholars Portal at <https://posters.gmis-scholars.org/>. Be mindful of the deadlines to submit each required/optional component. Submissions are accepted in the Topic Categories listed below.

Classification	Conceptual Research Category	Research Poster Category	CAHSI vREU Category
Undergraduate	Computer Engineering/Computer Science		TBD
	Engineering and Technology		
	Math and Science		
Graduate	Computer Engineering/Computer Science		
	Engineering and Technology		
	Math and Science		

**STEP 2:** Register for the virtual 2020 GMiS Conference. Conference registration is required to participate in the virtual GMiS Research Poster Competition, attend the Research Poster Competition Networking Reception (Tentative/TBD), access the Two-Day Virtual GMiS Graduate School and Career Fair, and attend sponsored hospitality suites, webinars, and award shows. Please visit the 2020 GMiS Conference website at <https://www.gmisconference.org/>

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 Graduate School and Career Fair, Webinars, and Networking events.

### Registration Fee

The virtual 2020 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 **Saturday, September 12.**

### Virtual Research Scholars Networking Reception

TBD. Further information will be provided as needed.

### 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, 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

Saturday, September 12	Last day to cancel registration and request an online refund.
Friday, September 18 11:59 PM PDT	Abstract Submission Deadline for Conceptual Research Category and Research Poster Category ( <b>DOES NOT Apply to vREU students</b> )
Monday, September 21	Individuals Notified of Presentation Status ( <b>DOES NOT Apply to vREU students</b> )
Wednesday, September 23	Last day to register for the virtual GMIS Conference
Monday, September 28	Pre-Conference Week Events Begin
Wednesday, September 30 11:59 PM PDT	Poster Submission Deadline ( <b>all students, including vREU students</b> ) Photo Submission Deadline ( <b>all students, including vREU students</b> ) Required Video Link Deadline ( <b>vREU students only</b> )
Monday, October 5 8:00 AM PDT	Optional Video Link Deadline ( <b>all students, except vREU students</b> ) Virtual 2020 GMIS Conference Week Begins
Tuesday, October 6 9:00 AM – 11:30 AM PDT	Virtual Graduate Student Presentations to Judges
Wednesday, October 7 9:00 AM – 11:30 AM PDT	Virtual Undergraduate Student Presentations to Judges

## 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.

- I. Computer Engineering/Computer Science
- II. Engineering and Technology
- III. Math and Science

The competition process for the vREU students is TBD.

## Contact Information

For further information, please email [posters@greatmindsinstem.org](mailto:posters@greatmindsinstem.org)

## 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 Research 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. (**NOTE: The abstract submission does not apply to vREU students**)

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

- Typed, Single-spaced
- 1-inch margins
- Times New Roman, with 11 or 12-pt font (expect 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.
  - Students are encouraged to discuss differences between their hypothesized results and their actual results when presenting their research at the conference.
- 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**

M. Retana<sup>1</sup>, B. Hockman<sup>2</sup>, J. Ahmar<sup>3</sup>, M. Pavone<sup>2</sup>

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University of California, Berkeley, Berkeley, 94720<sup>3</sup>

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

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. Abstracts with incomplete information will not be considered for the competition. GMIS reserves the right to make any formatting edits to the abstract only for the sole purpose to fit the Research Poster Competition Proceedings.

**Poster Format and Resources**

This section applies to students, who submitted an abstract for the **Research Poster Category** and the **CAHSI vREU students**. The format of the 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. The poster should be formatted horizontally and sized 48 ft x 36 ft. Presenters should carefully critique the content and arrangement of their posters. 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 is a myriad of 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>

### Video Presentation

The video is **optional** for students, who were accepted to present in the **Research Poster 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 is **required** for **CAHSI vREU students** along with their poster.

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

### Video Presentation 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)

### Virtual Judging

All students, whose abstract has been accepted for either the **Conceptual Research Category** or the **Research Poster Category** will present their work to a panel of judges. If selected to present, **only the authoring student may present his/her work** to the judges. No substitutions

will be allowed under any condition. Mentors are not allowed to co-present. Remember, this is an individual competition and **not a team competition**.

The presentation and judging process for the CAHSI vREU students is TBD.

Each abstract and poster will be reviewed based on the two principles outlined by the National Science Foundation. Abstracts and posters will be evaluated on the overall writing, content and presentation as it relates to the baseline principles of Intellectual Merit and Broader Impact. According to the National Science Foundation (*NSF Strategic Plan for FY 2006-2011: Investing in America's Future (NSF 06-48)*), successful projects can demonstrate Intellectual Merit and Broader Impact if the following questions are succinctly addressed:

#### **Intellectual Merit**

- How important is the proposed activity to advancing knowledge and understanding within its own field or across different fields?
- How well qualified is the proposer to conduct the project?
- To what extent does the proposed activity suggest and explore creative, original, or potentially transformative concepts?
- How well conceived and organized is the proposed activity? Is there sufficient access to resources?

#### **Broader Impact**

- How well does the activity advance discovery and understanding while promoting teaching, training and learning?
- How well does the proposed activity broaden the participation of underrepresented groups (e.g., gender, ethnicity, disability, geographic, etc.)?
- To what extent will it enhance the infrastructure for research and education, such as facilities, instrumentation, networks and partnerships?
- Will the results be disseminated broadly to enhance scientific and technological understanding?
- What may be the benefits of the proposed activity to society?

#### **Information Release and Disclaimer**

Research posters 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 2020 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 and/or poster, participant photographs, contact information, and institutional and/or employer



affiliation, and other such information for audio, video and print media, including social media. Posters must be original in content. Posters must have all proper citations and permissions.