

February 3, 2021

Dear Student/Parent/Faculty Member:

You are invited to participate in The Aerospace Corporation’s virtual 44th annual Robert H. Herndon Memorial Science Competition on **Thursday, May 27, 2021**.

The competition is held to evaluate science written essays submitted by middle school and high school students. Winners will be selected based on originality and a demonstrated understanding of the subject matter.

In keeping with the long-range goal of this competition, which is to increase diversity in the engineering and science professions, this competition is open to students from diverse backgrounds who show an interest in science or math. Essays will be evaluated by the science competition’s steering committee and technical professionals. **Online registration is required for participation.**

Please download, complete and return Photo media release forms by **April 16, 2021**.

The schedule for the day includes technical demonstrations, a keynote address, and the awards presentation. The event will held virtually on [www.aerospace.org/herndon](http://www.aerospace.org/herndon) from 1pm - 3pm Eastern. You must register to receive an access link for the virtual event. If you have any questions, please email herndonscience@aero.org.

Sincerely,

Oliver Ambrosia

2021 Co-Chairperson

James Northern

2021 Co-Chairperson

Terita Norton

2021 Co-Chairperson

**INSTRUCTIONS FOR ESSAY COMPETITORS**

Robert H. Herndon Memorial Science Competition

Winning students will receive a monetary prize. The Essay Evaluation Committee of the Robert H. Herndon Memorial Science Competition will judge all essays. Awards will be given based on the merit of the essay submitted. The essay competition is open to middle and high school students.

To participate in the essay competition, complete the following steps:

1. Submit the following documents by **April 16,02021:**
   1. **Attendee Info:**
      1. Please list participant name and Faculty/Parent contact
      2. Please type information into online form
   2. **Essay Abstract** containing:
      1. **Theme: Re-Imaging the Future of Space**
      2. Category: Chemistry, Computers, Physics, Engineering, Robotics, Aeronautics, Environmental Science, Biology
      3. 100-word (approx.) paragraph describing the selected topic
      4. Author’s name
      5. Author’s grade level
   3. **Media Release Form**:
      1. All students must provide an individual media release ((see page# 5) Download form and return via email to herndonscience@aero.org)
2. Submit **FINAL** online, **original** 500-word (minimum) essay by **April 30, 2021:**
   1. **All essays will be checked for plagiarism prior to judging**. Essays found to be plagiarized will be disqualified and the author may not attend the competition.
   2. Essays must follow the proper research-paper format, including title page and bibliography or list of references.
   3. All entries must be typed and single-spaced.
   4. There is a **3-page** lengthlimit for Middle School and **4-page** limit for High School.
      1. Title page and bibliography do not count towards length limit.
      2. Font should be at least 12 point in size and single spaced.
      3. Any diagrams or figures will count towards page limit.
   5. Student’s name should only be on the title page.
      1. Each student will be assigned an ID number to maintain objectivity during judging.
   6. Essays must be submitted using the online essay submission form
3. Attend the competition on **May 27, 2021**. You must be present to receive a prize.

We look forward to your participation and to seeing you on May 27. If you have any questions, contact**:** [**herndonscience@aero.org**](mailto:herndonscience@aero.org)**.**

**SAMPLE ESSAY FORMAT**

The essay should follow the format shown below. In addition, attempt to address the questions listed within each section.

**Section 1: Title Page**

* Provide the Student Name and Grade
* Provide the Essay Title
* Provide the Essay Category [Chemistry / Computer / Physics / Engineering / Robotics / Aeronautics /

Environmental Science/ Biology]

**Section 2: Abstract (see example previous page)**

* Provide a clear statement of the topic being considered
* Provide a short summary of essay contents and any conclusion you have drawn

**Section 3: Introduction/Background**

* Describe the topic or technology
* Discuss the history and evolution of the topic/technology
* Discuss the development of alternative technologies

**Section 4: Main Body (this may contain several subsections)**

* Provide a detailed description of topic/technology
* Discuss key current technical directions and challenges
* Discuss applications of the technology (present and future)
* Compare with alternative technologies. Describe the relative advantages/disadvantages
* Provide an example of how/why this technology is beneficial
* Describe future directions of the technology
* Provide a discussion of the business opportunities: what are the most important enabling technologies, more cost-effective alternative enabling technologies.
* Identify the major vendors selling the technology
* Identify the major customers buying the technology
* Identify the important scientists/engineers/companies that have developed the technology
* Describe how this technology impacts society/people (good & bad)

**Section 5: Summary/Conclusion**

* Summarize future of the topic/technology
* Include your opinion for possible new/unforeseen applications, problems, or limitations.

**Section 6: Bibliography**

* List all reference sources used in the essay and the location of the source
* \*\*\***Plagiarism is Illegal**\*\*\* Do not copy information directly from a source without referencing the source.
* **Example: In-Text Citation** 
  + Human beings have been described as "symbol-using animals" (Burke, 3).

(Author’s Name, Page Number)

* **Example Bibliography Entry** 
  + Burke, Kenneth. *Language as Symbolic Action: Essays on Life, Literature, and Method*.

Berkeley: University of California Press, 1966.

**JUDGES’ WORKSHEET FOR ESSAY COMPETITION**

**(Note: This is just a guide. Record your final scores in the Essay scoring spreadsheet)**

**Min Max Score**

**INITIAL PLANNING**

**1.Did the student do adequate research 0 1 2 3 4 5 \_\_\_\_**

**on the chosen topic?**

**2.Has the approach in the essay been well 0 1 2 3 4 5 \_\_\_\_**

**thought out and organized?**

**3.Was the topic appropriate for the essay 0 1 2 3 4 5 \_\_\_\_**

**competition?**

**LEVEL OF EFFORT, ORGANIZATION AND INITIATIVE**

**4.Has reasonable technical depth been 0 1 2 3 4 5 \_\_\_\_**

**demonstrated for the grade level?**

**QUALITY OF ANALYTICAL WORK**

**5.Has a reasonable hypothesis or analytical 0 1 2 3 4 5 \_\_\_\_**

**model been developed?**

**6.Is there evidence of creative thinking in the 0 1 2 3 4 5 \_\_\_\_**

**development of the method used?**

**7.Are the results or conclusions displayed in an 0 1 2 3 4 5 \_\_\_\_**

**easily understood manner?**

**PRESENTATION**

**8.Do the results or conclusion relate back to the 0 1 2 3 4 5 \_\_\_\_**

**hypothesis?**

**9.Were the conclusions supported by the 0 1 2 3 4 5 \_\_\_\_**

**argument given?**

**10.Was the report clear, easy to follow and 0 1 2 3 4 5 \_\_\_\_**

**grammatically well-written?**

**11.Was the student’s understanding of the 0 1 2 3 4 5 \_\_\_\_**

**work clearly evident?**

**Total Score \_\_\_\_**

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**Recordings Consent & Release (Minor)**

The Aerospace Corporation (“Aerospace”) requests your permission to reproduce through printed, audio, visual, or electronic means activities in which your child will participate in connection with Aerospace’s Science, Technology, Engineering and Math (“STEM”) activities and events. Your authorization is required for your child’s participation and will enable us to use specially prepared materials for informational, educational and/or public relations purposes.

1. STEM Event: 2021 Robert H. Herndon Memorial Science Competition

2. Name of Participant (please print):

3. Date of Birth (please print):

4. Name of Parent/Guardian (please print):

a. I, as a parent or guardian, of the above named participant fully authorize and grant Aerospace and its authorized representatives, the right to print, photograph, record, and edit as desired, the biographical information, name, image, likeness, and/or voice of the above named participant on audio, video, film, slide, or any other electronic and printed formats (known as “Recordings”), in connection with the activities stated above.

b. I understand and agree that use of the Recordings will be without any compensation to the participant or the participant’s parent or guardian.

c. I understand and agree that Aerospace and/or its authorized representatives shall have the exclusive right, title, ownership and interest, including copyright, in the Recordings.

d. I understand and agree that Aerospace and/or its authorized representatives shall have the unlimited right to use the Recordings, with or without the names of the participant or the participant’s parent or guardian, and without any right of inspection or approval, for any purposes stated or related to the above and through the use of mass media, displays, illustrations, brochures, advertising, and/or Web content.

e. I hereby release and hold harmless Aerospace, its employees, officer, Trustees, agents and authorized representatives from any and all actions, claims, damages, costs, or expenses, including attorney’s fees, brought by the participant or the participant’s parent or guardian that relate to or arise from any use of the Recordings as specified above.

My signature shows that I have read and understand the release and I agree to accept its provisions.

Signature of Parent/Guardian: Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Address:

Phone:

**MEDIA RELEASE REQUIRED TO COMPLETE COMPETITION REGISTRATION**

**E-mail completed form to** [**herndonscience@aero.org**](mailto:herdonscience@aero.org) **by April 16, 2021. No other formats will be accepted**