



Hello!

Grand Valley State University and the Grand Rapids Public Museum are proud to bring you the third annual *Roger That!* conference on the weekend of **February 15-16, 2019**. This event is a celebration of space exploration in honor of native Grand Rapidian and Michigan's first astronaut, Roger B. Chaffee. As part of this conference, we invite interested 4<sup>th</sup> – 8<sup>th</sup> grade students in the greater Grand Rapids area to participate in *Design That!* - a design challenge that focuses on three major areas related to space exploration – Humans in Space, Communities in Space, and Robots in Space.

Students are encouraged to design and build physical objects or use non-fictional and fictional narrative styles to present challenges related to space exploration. Full details are provided in the attached document, which is suitable for sharing directly with your students.

Participation in *Design That!* can align with the following K-12 Standards:

- **Michigan K-12 Science Standards Performance Expectations:** MS-PS2-1. Forces and Interactions; MS-PS3-3. Energy; MS-LS2-5. Interdependent Relationships in Ecosystems; MS-ESS1-2. Space Systems; MS-ESS3-3. Human Impacts; MS-ETS1-1 through MS-ETS1-4. Engineering design.
- **NGSS Science and Engineering Practices:** Defining Problems, Developing and Using Models, Constructing Explanations and Designing Solutions, Engaging in Argument from Evidence, Obtaining, Evaluating, and Communicating Information
- **ELA Common Core Standards by Domain:** Comprehension and Collaboration, Presentation of Knowledge and Ideas, Production and Distribution of writing, Research to Build and Present Knowledge

Please feel free to contact us via email at [rogerthat@gvsu.edu](mailto:rogerthat@gvsu.edu) or via phone at 616-331-8126 with any questions you may have.

Thank you

Dr. Samhita Rhodes, GVSU Engineering and Dr. Karen Gipson, GVSU Physics

# ***Design That!***

To commemorate the life of Roger B. Chaffee and the brave astronauts of Apollo 1, Grand Valley State University and Grand Rapids Public Museum are co-hosting the third annual *Roger That!* conference on the weekend of **February 15-16, 2019**.

We invite interested 4<sup>th</sup> – 8<sup>th</sup> grade students in the greater Grand Rapids area to participate in ***Design That!*** - a design challenge that focuses on three major areas related to space exploration. Separate awards will be presented for 4<sup>th</sup> – 6<sup>th</sup> grades and 7<sup>th</sup> - 8<sup>th</sup> grades.

## **Problems to solve:**

- ❖ Humans in Space
- ❖ Communities in Space
- ❖ Robots in space

## **Examples of things you can do:**

- ✓ Explain concepts related to space or space exploration
- ✓ Discuss solutions to barriers to space exploration
- ✓ Write a story or perform a play about space travel or life in space
- ✓ Design clothing, buildings, or devices for space travel or life in space
- ✓ Build physical devices (robots or models) to be used in space exploration
- ✓ Create a webpage or computer model relevant to space or space exploration

## **How to participate:**

1. Let us know you're interested in participating in ***Design That!*** by **Friday, January 18<sup>th</sup>, 2019**.
2. Select a topic.
3. Form a team (recommended size 2-6 students), and research your topic.
4. Email your project reflection and your project documentation (explained below) to [rogerthat@gvsu.edu](mailto:rogerthat@gvsu.edu) by **Friday, February 8<sup>th</sup>, 2019**.
5. Project outcomes will be on display **Friday, February 15<sup>th</sup>** at GVSU and **Saturday, February 16<sup>th</sup>** at GRPM as part of the *Roger That!* conference programming.

## **Project Reflection** (up to 5 pages including figures and bibliography):

1. Your reason(s) for choosing the problem
2. Your research into the problem
3. Your solution to the problem
4. Something(s) you learned that surprised you
5. The most challenging part of your project

## **Awards will be based on:**

- Project documentation (copy or picture of your poster, your story, video of your play, pictures of any physical models or robots, etc.)
- Project reflection (content, scientific accuracy, grammar, appropriate referencing)
- Innovation (creativity and originality)

## **Prizes include:**

- Certificates for each team member
- Pizza party for your class
- Museum ticket package