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The Next Generation of Explorers



NAC STEM ENGAGEMENT COMMITTEE
MAY 2, 2019

MIKE KINCAID
ASSOCIATE ADMINISTRATOR FOR STEM ENGAGEMENT

FIFTH NATIONAL SPACE COUNCIL MEETING

Expert Panel 1: Ready to Fly

- Les Lyles, retired U.S. Air Force general and former Vice Chief of Staff of the Air Force
- Eileen Collins, retired U.S. Air Force officer and former NASA astronaut
- Sandy Magnus, former NASA astronaut

Expert Panel 2: Ready to Explore

- Dan Dumbacher, American Institute of Aeronautics and Astronautics
- Jack Burns, University of Colorado at Boulder
- Wanda Sigur, independent consultant



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March 26, 2019

VP Pence announced plans to return U.S. astronauts to the surface of the Moon by 2024, with report from NASA Administrator Bridenstine

STEM ENGAGEMENT 5-YR STRATEGIC PLAN

VISION:

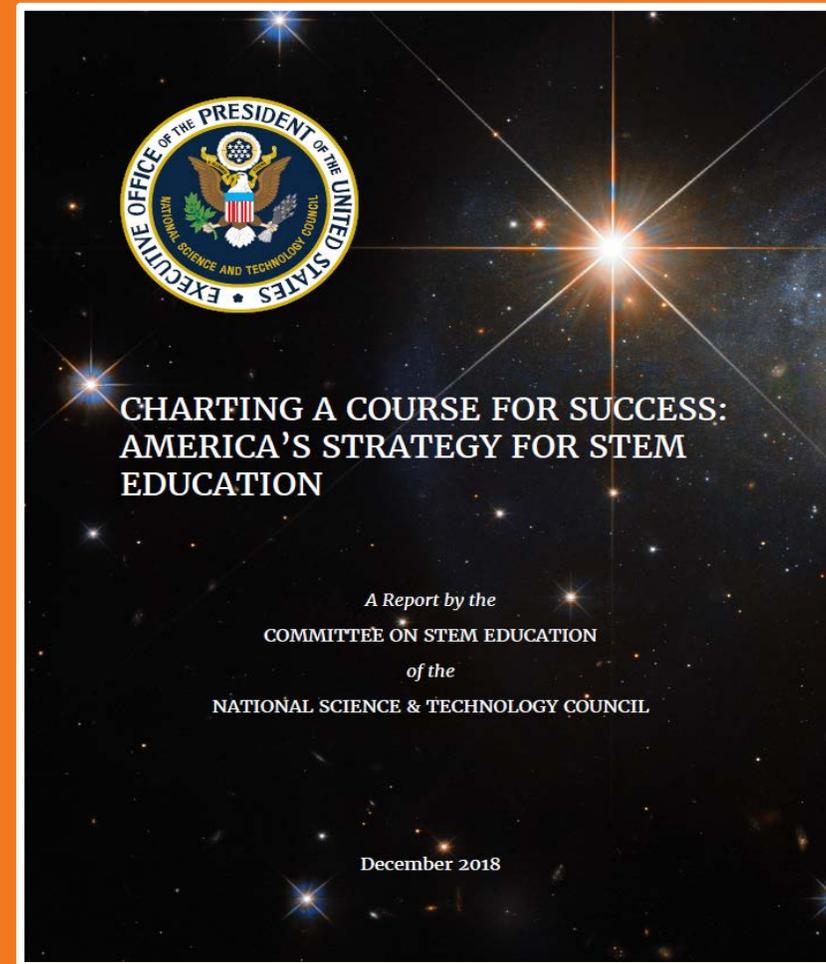
- A future where all Americans will have lifelong access to high-quality STEM education.
- The United States will be the global leader in STEM literacy, innovation and employment.

ASPIRATIONAL GOALS:

- Build Strong Foundations for STEM Literacy
- Increase Diversity, Equity, and Inclusion in STEM
- Prepare the STEM Workforce for the Future

NEXT STEPS:

- Develop implementation plan (May 9) to include:
 - Individual agency commitments to objectives
 - Collaborative activities for FC-STEM and its interagency working groups to pursue
- Reviewed by: CoSTEM and STEM Education Advisory Panel



<http://www.whitehouse.gov/wp-content/uploads/2018/12/STEM-Education-Strategic-Plan-2018.pdf>

GOALS FOR AMERICAN STEM EDUCATION

★ Build Strong Foundations for STEM Literacy ★

★ Increase Diversity, Equity, and Inclusion in STEM ★

★ Prepare the STEM Workforce for the Future ★

Pathways	Objectives	DOC	DoD	DOE	DHS	DOI	DOL	DOS	DOT	ED	EPA	HHS	NASA	NSF	SI	USDA
Develop and Enrich Strategic Partnerships	Foster STEM Ecosystems that Unite Communities	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Increase Work-Based Learning and Training through Educator-Employer Partnerships	●	●	●	●	●	●			●	●	●	●	●	●	●
	Blend Successful Practices from Across the Learning Landscape	●	●	●	●		●	●		●	●			●	●	●
Engage Students where Disciplines Converge	Advance Innovation and Entrepreneurship Education	●	●	●				●		●	●	●		●		●
	Make Mathematics a Magnet	●	●							●				●		●
	Encourage Transdisciplinary Learning	●	●	●	●	●		●		●	●	●	●	●	●	●
Build Computational Literacy	Promote Digital Literacy and Cyber Safety	●	●		●			●		●		●		●		●
	Make Computational Thinking An Integral Element of All Education	●	●	●	●	●				●		●		●	●	●
	Expand Digital Platforms for Teaching and Learning	●		●	●			●		●				●	●	●

NASA'S CHOSEN OBJECTIVES

1. Foster STEM Ecosystems that Unite Communities
2. Increase Work-Based Learning and Training through Educator Partnerships
3. Encourage Transdisciplinary Learning



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CoSTEM IMPLEMENTATION PLAN DEVELOPMENT



- CoSTEM strategic plan released

Dec. 4, 2018

Mar. 6, 2019

- Implementation plan data call sent to agencies

- Draft implementation plan to be completed

May 9, 2019

June 2019

- Implementation plan finalized

INPUT FROM STEM EDUCATION ADVISORY PANEL MEMBERS
AIMEE KENNEDY & RAY MELLADO



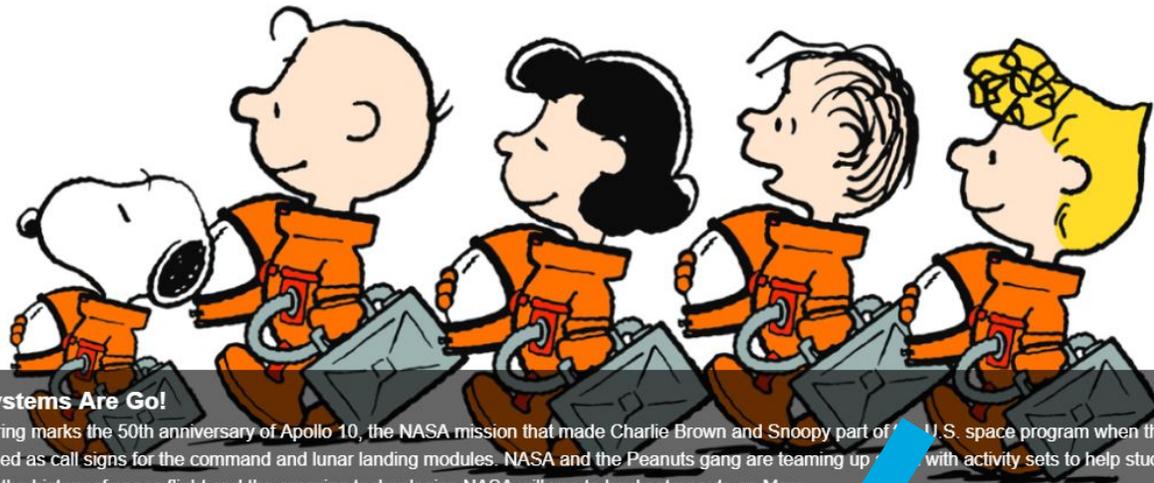
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APOLLO'S 50TH & SPACE STEM FORUM

 Space STEM Forum


Sign up Log in

- Home
- Forum Information
- Small Steps to Giant Leaps
- Map: Events/Exhibits
- Submit Event/Exhibit
- Resources
- NASA Home
- Museum Alliance



All Systems Are Go!

This spring marks the 50th anniversary of Apollo 10, the NASA mission that made Charlie Brown and Snoopy part of the U.S. space program when their names were used as call signs for the command and lunar landing modules. NASA and the Peanuts gang are teaming up with activity sets to help students explore the history of space flight and the amazing technologies NASA will use to land astronauts on Mars.

PEANUTS



FORUM INFORMATION

Get to know the Space STEM Forum, and how to use its resources to enhance student



SMALL STEPS TO GIANT LEAPS

Look forward to the future of space exploration through these



MAP OF EVENTS AND EXHIBITS

Nationwide opportunities to learn about Moon missions - past,



RESOURCES

Explore STEM engagement and education materials for learners of all ages.

50th Anniversary of First Human Lunar Landing **July 2019**

Space **STEM Forum** enables collaboration to leverage STEM engagement efforts with industry/professional organizations.

<https://spacestem.nasa.gov>



APOLLO'S 50TH:

MOON TO MARS @ THE MUSEUM (M³)

July 19, 2019: Hour-long student-focused broadcast putting the spotlight on future Moon to Mars Exploration and Apollo 11's 50th anniversary.

- Features STEM, student-focused interactive activities
- Several large museums to serve as host sites – others will tune in

Over **30 organizations** have been planning celebrations – expect **over 100 museums** to host events throughout the country.

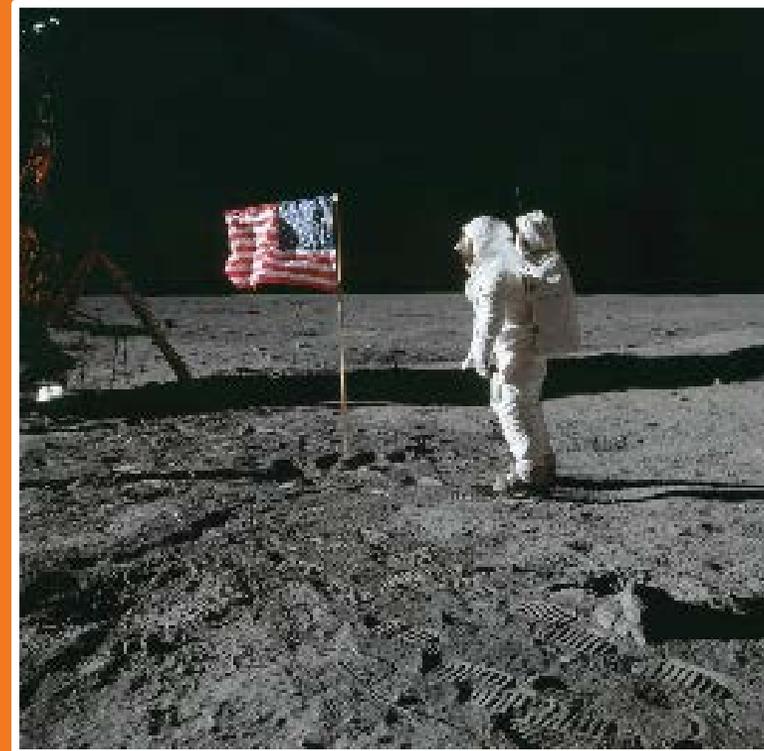
FOUNDATION FOR MUSEUM EVENTS:

- Anchor/host museums
- Curated resources for events
- Connected museum activities
- Best practices compilation and use



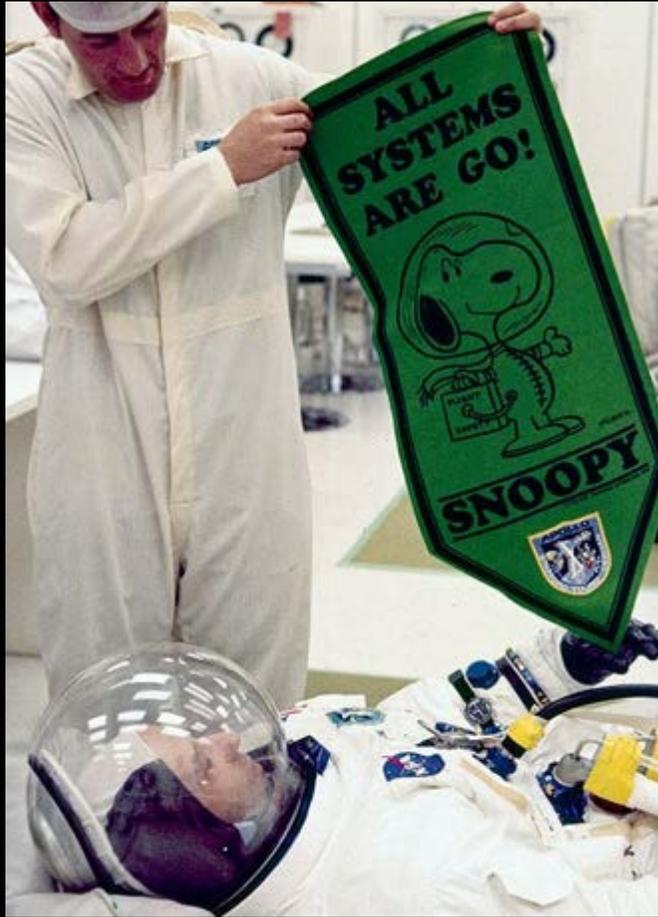
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NASA & PEANUTS WORLDWIDE

50 YEARS OF PARTNERSHIPS AND COUNTING...



A collaboration to celebrate Apollo's 50th and deep space learning activities.

Celebrating the Apollo 10 mission, the lunar module "Snoopy," and the command module "Charlie Brown."

- 1968: Silver Snoopy Program commenced to honor NASA employees and contractors.
- Began multi-year partnership celebrating 50th anniversary of lunar landing and introduce new content and educational engagement focusing on America's next flight test for deep space exploration.



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GUINNESS RECORD ROCKET LAUNCH

U.S. SPACE AND ROCKET CENTER

Attempt Date: July 16, 2019

Goals:

- Most model rockets launched simultaneously (>5,000)
- Most rockets of any kind launched in 24 hours



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EVENTS & EXHIBITS: INTERACTIVE MAP

- Interactive map, searchable by terms or zip codes
- Details can be listed or can switch to Calendar view
- Zooms in map capability
- Events *and* exhibits
- Apollo *and* Moon to Mars

Map Satellite

Legend: Event Exhibit Apollo Mars

View Calendar

Show Events within 100 miles of zipcode: Show: Events and Exhibits Event name contains: Name

Mission: All Missions Submit Reset all Filters

EVENTS & EXHIBITS: CALENDAR FEATURES


Space STEM Forum


- Home
- Program Information
- Small Steps to Giant Leaps
- Events and Exhibits
- STEM Engagement
- NASA Home
- Museum Alliance

Events and Exhibits

◀ July 2019 ▶

Legend: 📅 Event 🏛️ Exhibit 📅 Apollo 📅 Mars View Map

Month: Year: Event name contains:

Show: Mission: Submit Clear all Filters

Image	Organization	Title	Date	Location
	Wings Over the Rockies Air and Space Museum	ApolloPalooza 2019	NA	Denver, Colorado
	Armstrong Air & Space Museum	Summer Moon Festival	NA	Wapakoneta, Ohio
	Columbia Memorial Space Center	Apollo 11 Splashdown Parade	NA	Downey, California
	Columbia Memorial Space Center	5K Moon Walk	NA	Downey, California
	Museum of Flight	National Moon Day and Night at a Museum	NA	Seattle, Washington
	Columbia Memorial Space Center	Recreating the Birthplace of Apollo	NA	Downey, California
	U.S. Space & Rocket Center	National Moon Day and Night at a Museum	NA	Huntsville, Alabama
	Children's Museum of Indianapolis	National Moon Day and Night at a Museum	NA	Indianapolis, Indiana
	Saint Louis Science Center	National Moon Day and Night at a Museum	NA	St. Louis, Missouri
	The Discovery Museum	National Moon Day and Night at a Museum	NA	Bridgeport, Connecticut




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Space STEM Forum


Events and Exhibits

◀ July 2019 ▶

Legend: 📅 Event 🏛️ Exhibit 📅 Apollo 📅 Mars

Month: Year:

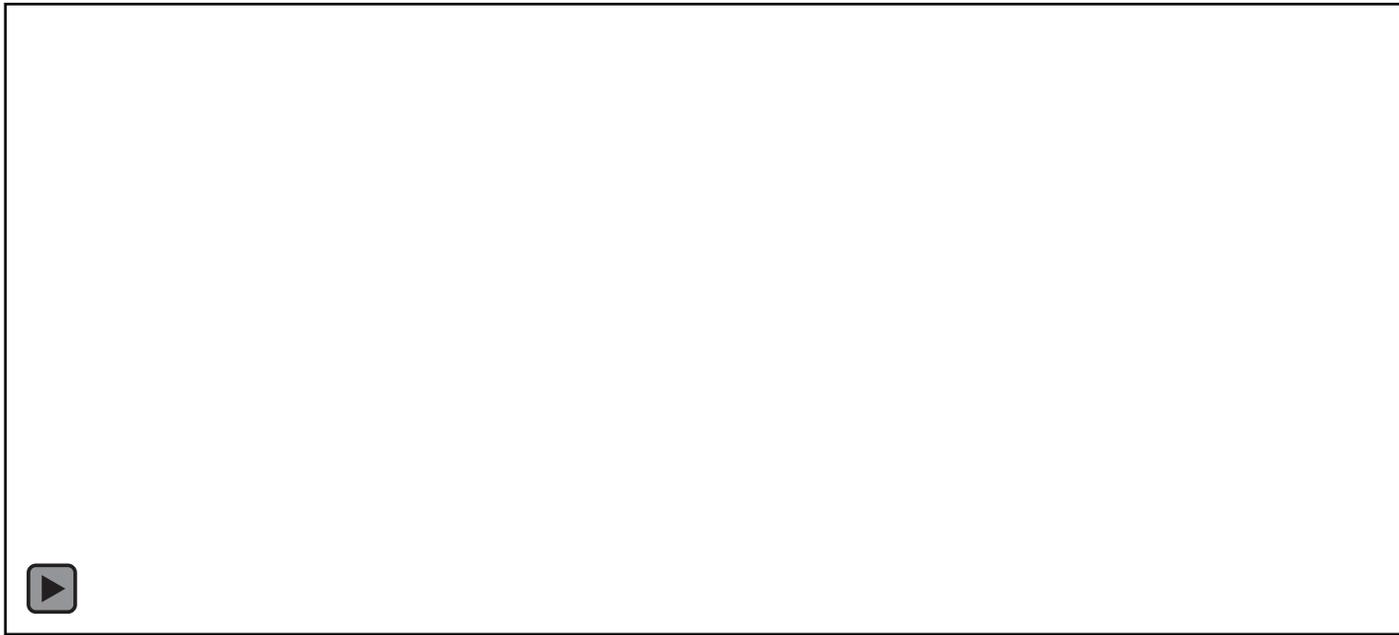
Event name contains:

Show: Mission: Submit Reset all Filters

Title	Date	Location
 Cub Scout Out of this World STEM Nova	1-12-19	Wallops Island, Virginia
 Astronomy Days 2019	NA	Raleigh, North Carolina
 Apollo 11 Splashdown Parade	7-24-19	Downey, California
 ApolloPalooza 2019	7-13-19	Denver, Colorado
 National Moon Day and Night at a Museum	7-20-19	Seattle, Washington
 Facing Mars	NA	Des Moines, Iowa
 Apollo 11 Mission Re-enactments	NA	Downey, California

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NASA STEM PRESENTS: THE FUTURE OF SPACE

A LIVE DISCUSSION FOR COLLEGE STUDENTS

DATE: Monday, April 29 at 2 p.m. EDT

AUDIENCE: College Students

TIME: 60 Minutes

PARTNERS: American Institute for Aeronautics and Astronautics (AIAA), Space Grant, Students for the Exploration and Development of Space (SEDS)

OBJECTIVES:

1. NASA's approach of going **Forward to the Moon**
2. Hear from **leadership** and **young professionals** and get look at **what it is like to work at NASA**
3. Generally **inspire** and **engage** students to **pursue STEM careers**

OUTCOMES:

1. Learn from NASA leadership and early career folks who tell them, **"This is what I do"** and eventually **pursue a STEM career**
2. Learn more about how to **engage in NASA's mission** and **Go Forward to the Moon**



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MEETING GOALS:

Bring together stakeholders from across multiple projects

Share practices and resources to increase collaboration

Engage Mission Directorates across projects to increase alignment

Provide consistent messages about goals to grantees and MDs

INCREASE FOCUS ON STUDENTS!

- 400 participants from all OSTEM programs



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The poster features a collage of four images: a woman in a white lab coat looking at equipment, a young girl wearing goggles and holding them up, a person in a blue and white wheelchair on a track, and a man in a grey shirt holding a white model airplane. The NASA logo is in the top right corner. The text 'MEGA PI MEETING' is prominently displayed in the center. Below the images, the text reads: 'EPSCoR • MUREP • NextGenSTEM • Space Grant FORGING OUR FUTURES TOGETHER'. Further down, it specifies 'LOCATION: Glenn Research Center, Cleveland, OH' and 'DATES: August 8 - 9, 2019'. At the bottom, it says 'COME JOIN US! Collaborate with all STEM Engagement principle investigators and key stakeholders across many projects'. The website 'www.nasa.gov' is at the bottom left, and a small version of the Inspire-Engage-Educate-Employ logo is at the bottom right.

National Aeronautics and Space Administration

MEGA PI MEETING

EPSCoR • MUREP • NextGenSTEM • Space Grant
FORGING OUR FUTURES TOGETHER

LOCATION: Glenn Research Center, Cleveland, OH
DATES: August 8 - 9, 2019

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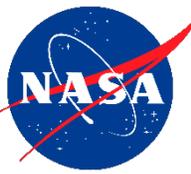
www.nasa.gov

SPARKING INTEREST IN STEM

- **Sparking Interest in STEM (separate presentation)**
 - Request from Committee to examine this topic
 - Overview by R. LaSalvia and R. Gilmore
 - More complete presentation provided later this month

- **Input from Committee members will be appreciated**





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THANK YOU!