



In-Flight STEM Downlinks

PLANNING GUIDE

Introduction

This guide explains the processes and requirements to host a NASA In-flight STEM Downlink. Please direct any questions or comments to JSC-Downlinks@mail.nasa.gov.

What are In-Flight STEM Downlinks?

In-flight STEM Downlinks allow participants and facilitators to engage with astronauts aboard the International Space Station. During the 20-minute question-and-answer session, astronauts answer prerecorded participants' questions live on air.

In-Flight STEM Downlinks Overview:

- Large-scale, public events serving formal and informal STEM communities based in the U.S. and U.S. territories
- Prioritize engagement with space workforce focus with the following audiences; K-12; universities as well as formal and informal STEM organizations are welcome to apply
- Support a comprehensive suite of STEM Engagement proposed by host organizations to enhance participants' understanding of STEM (Science, Technology, Engineering, and Mathematics)
- Stream live on Learn with NASA YouTube
- Occur Monday – Friday, between 8 a.m. and 1 p.m. CT, excluding federal holidays

Why does NASA provide In-Flight STEM Downlinks?

In-flight STEM Downlinks allow audiences to learn firsthand from astronauts what it is like to live and work in space. NASA's Office of STEM Engagement facilitates these events to spark and sustain participants' interest in STEM and make meaningful connections to NASA's missions, content, and people.

Is my organization a good fit to host a Downlink?

An In-flight STEM Downlink is a good fit for:

- Formal or informal organizations based in the U.S. or U.S. territories
- Organizations with the flexibility to adapt to schedule changes
- Those capable of handling the outreach event, technology, and logistics surrounding an In-flight STEM Downlink

Please note that previously hosting a Downlink does not prevent an organization from future participation.

What do participants experience during an In-Flight STEM Downlink broadcast?

- An opening tile listing the host organization will appear on-screen approximately five minutes before the start of the Downlink
- The Downlink begins with a 30-second opening remarks video provided by the host organization following a voice check by mission control and the astronaut(s). The opening remarks conclude with, "Here's our first question."
- Each In-flight STEM Downlink begins with the first participant question playing and the astronaut responding in real-time, which may include a demonstration, video clips, or images
- The process continues for approximately 19 minutes
- The host organization concludes the Downlink with a 20-second closing remarks video
- Post-event, the host organizations will receive a link to the recorded session

The Proposal Process

In-flight STEM Downlinks follow the six-month mission schedule on the space station called expeditions. We intake proposals bi-annually in the spring and fall. Following the proposal period, a selection committee evaluates proposals and selects organizations eligible for Downlink scheduling.

Due to the uncertain nature of spaceflight, In-flight STEM Downlinks does not receive a specific number of expedition slots. Although organizations receive notification of Downlink **eligibility**, the event **is not guaranteed** until crew availability is assessed and dates are assigned.

To apply:

1. Download the Planning Guide and Expedition 75 Proposal Form [here](#). Email questions to JSC-Downlinks@mail.nasa.gov.
2. Register in [NASA STEM Gateway](#). Registration is a three-step process:
 - Register and set up a profile in [NASA STEM Gateway](#)
 - Download and complete the Expedition 75 Proposal Form
 - Register specifically for the current [In- Flight STEM Downlink engagement](#)
3. Upload the completed proposal form and supporting materials in NASA STEM Gateway by the proposal deadline – 12:00 p.m. CT on October 2, 2025.

How will NASA evaluate proposals?

Organizations must submit an Expedition 75 proposal form through NASA STEM Gateway by the submission deadline to be eligible for review. A panel of NASA professionals review the In-flight STEM Downlink proposals. Using a rubric, selection committee members spend approximately one month individually reviewing proposals. Members then meet as a committee to review scores and rank proposals based on merit. For Expedition 75, organizations can expect to be updated regarding their proposal status in early November 2025.

General tips:

- Follow all directions and include all required elements on the proposal as outlined in the planning guide
- Submit your NASA STEM Gateway application
- Upload your proposal form and supporting documents to your NASA STEM Gateway application by the deadline
- Proofread the proposal before submitting it to ensure all information is complete and accurate
- Include pictures/graphics when applicable
- You can attend a virtual question-and-answer session to ask specific questions
- Dates and times for the sessions are on the website: [Apply for a Downlink - NASA](#)

How will the proposals be scored?

The percentages listed below reflect the weight given to each proposal section. You can be awarded “Above and Beyond” points for providing unique themes, proof of partnering, large-scale outreach, or special events planned in connection with the downlink.

- Leadership Support and Technology Plan Statement (10%)
- Impact Statement (30%)
- Event & Logistics Plan (20%)
- Measuring Impact & Collecting Data Plan (10%)
- Community Engagement Plan (20%)
- Optional: Above and Beyond (Additional 10%)

Dates & Availability

Downlink scheduling depends on mission operations and crew member schedules; we cannot choose specific dates or times for Downlinks to occur. Instead, we match client availability with dates provided by space station schedulers. Flight operations are fluid. If selected, clients must be flexible with scheduling.

- Include **all** dates on which your organization is available for a Downlink. Flexible availability increases scheduling chances
- Check your calendar for holidays, testing, or anything else that would interfere with a Downlink, and block out dates your organization is unavailable
- Downlinks cannot occur on weekends or federal holidays
- Downlinks occur between **8 a.m. and 1 p.m. CT Monday - Friday**. List your preferred 2-hour time window in Central Time
- **Do not** list dates on which you are not available for this timeframe

ARISS Space Station Contact Opportunity Partnership (Beta Test)

What is an ARISS Contact?

A scheduled ARISS contact is a voice-only communication via Amateur Radio between the International Space Station crew and communities. ARISS contacts allow audiences to learn first hand from astronauts what it is like to work and live in space. These scheduled contact opportunities are offered to formal and informal institutions and organizations individually or working together. The radio contacts are approximately 10 minutes long due to the radio communication window permitted by the logistics of orbital passes of the International Space Station. During the contact, participants interact directly with astronauts and cosmonauts using a question-and-answer format.

What is the In-Flight STEM Downlinks and ARISS partnership alternate opportunity?

You can select that you are interested in a possible ARISS connection with the International Space Station on-orbit crew if your proposal is not selected for scheduling for an Expedition 74 Downlink. If you select that you are interested in an ARISS contact, we will forward your proposal form to ARISS to be considered in their proposal selection process. Once ARISS receives your forwarded proposal, they will contact you with additional directions for completing their necessary forms and additional time commitments.*

What if my proposal is selected for an ARISS contact?

Once you complete the additional application page for ARISS and if ARISS selects your proposal for a contact, you will attend an Orientation Session with ARISS.

If selected by ARISS, some of the requirements you will learn about during the Orientation Session are:

- Drafting an Equipment Plan
- Drafting a Livestream Plan
- Bimonthly updates
- Timeline for participants' questions to be sent to the crew on station
- Any additional requirements

*Our partnership with ARISS gives organizations the opportunity to use their In-flight STEM Downlink proposal as a replacement for the majority of the ARISS application, but an ARISS connection is not guaranteed through this process.

Leadership Support

Leadership support is vital for a successful event and community participation. Sometimes a Point of Contact (POC) applies for an In-flight STEM Downlink with one organization but later moves on to another organization before we select proposals for scheduling. The proposals are submitted on behalf of organizations and do not follow individuals from one organization to another.

Your organization's leadership should understand what an In-flight STEM Downlink is and the support, time, and community partnership necessary for a successful proposal and event. They also need to express willingness to participate in an In-flight STEM Downlink if the Primary POC is no longer with the organization at the time of scheduling.

An optional letter of support from your leadership can be submitted in NASA STEM Gateway as a supporting document and may help you receive "Above and Beyond" points when we review your proposal.

Technology Statement

In-flight STEM Downlinks uses prerecorded participant video questions. Astronauts respond to participant video questions in real-time during the 20-minute event. Once scheduled, hosts receive deadlines, a one-hour Downlink 101 session, and additional guidelines. Any persons appearing on NASA +, NASA TV, or any NASA multi-media must have a signed talent authorization release form.

In-flight STEM Downlinks require an internet connection, a device that connects to the internet with web capabilities, a device to record participant videos, and a wireless lavalier mic. In addition to these technology requirements, there are straightforward but specific filming requirements and quality control measures to ensure excellent videos to ensure the crew on station can easily see and hear.

We encourage organizations to maximize the Downlink's impact by hosting watch parties that include the broader community. Embedding links to the In-flight STEM Downlink on web pages and using social media platforms to stream the event is permitted and encouraged.

What are the basic technology and filming requirements?

- A plan to collect talent authorization forms for all participants appearing on NASA TV
- A plan to collect and select video questions from participants
- A quiet, well-lit area to film participant videos without background noise
- A wireless lavalier mic is required
- All videos must be filmed in landscape orientation (horizontal)
- Consider reaching out to audio-visual personnel to assist with recording
- Participants must speak loudly and be clearly understood

Impact Statement

The Impact Statement section of the proposal explains who you are as an organization, why your organization and community desires to host an In-flight STEM Downlink, the anticipated impact on participants and the community, and how an In-flight STEM Downlink aligns with your current STEM goals. The impact statement is the most essential section of the Downlink proposal, as it carries the most weight with the selection committee. There are three submission options: a written document (maximum of 2 pages), a PowerPoint slide deck (maximum of 10 slides), or a recorded virtual interview (maximum of 8-10 minutes).

What are some tips for creating a robust Impact Statement?

- Focus the narrative of the impact statement on how a Downlink will benefit participants, the organization, and the broader community
- In-flight STEM Downlinks should not be stand-alone events, so include your plans to sustain STEM engagement before and after the In-flight STEM Downlink (provide a summary; do not include lesson plans)
- Choose the submission format that best fits your organization
- Include any special considerations you'd like the committee to know about. For example:
 - Do you have a partnership with a local STEM industry?
 - Does your organization have special STEM-focused clubs/programming?
- List any collaborating stakeholders who plan to support the Downlink

What kinds of NASA resources are available?

NASA offers various resources, including websites, printed materials, participant and facilitator programs, and workforce development opportunities. In addition to the links below, we welcome you to email JSC-stemonstation@mail.nasa.gov and join [NASA CONNECTS](#), for STEM resources.

[Astronaut Biographies](#): This website provides biographical information on all past and current NASA astronauts. It also includes biographies of astronauts from Canada, Japan, Europe, and cosmonauts from Russia.

[International Space Station Home Page](#): This is the main site for space station-related news, activities, and resources. Check out the Expedition page for the crew to learn more about their mission. Explore multimedia resources to learn how the space station was built and how space station science and research benefits humankind.

[NASA STEM Home Page](#): This site serves as a gateway to information on NASA Office of STEM Engagement opportunities and resources for facilitators and participants. Check out the numerous facilitator guides, posters, and multimedia providing information about NASA and space exploration. Learn how to connect to NASA or get involved in workforce development opportunities.

[NASA Exhibits](#): The NASA Exhibit Program encompasses exhibits, artifacts, and visitor centers at the 10 NASA Centers and the Smithsonian National Air and Space Museum. The Exhibit Loan Program offers traveling exhibits, art, models, and artifacts free of charge except for shipping and insurance.

[NASA Express Message](#): Subscribe to NASA OSTEM's weekly e-newsletter to stay informed about upcoming opportunities and newly released education resources.

[Spot the Station](#): NASA's Spot the Station service gives you a list of upcoming sighting opportunities for thousands of locations worldwide and allows you to sign up to receive notices of opportunities via email or text message. As the third brightest object in the sky, the space station is easy to see if you know when to look up!

Event and Logistics Plan

Human space flight is fluid, and as a result, shifts in scheduling often occur. Your event and logistics plan should reflect that you have considered the logistics leading up to your event, the logistics surrounding the day of your event, and any logistics relating to post-event activities.

Describe your plan to complete logistics-related tasks. Include a draft agenda for the event day and summarize the activities before and after the Downlink. Detail any community partnerships you will engage in and note potential opening and closing speakers.

What are some tips for creating a strong logistics plan?

- Due to the uncertain nature of space flight, Downlink times may shift; plan for flexibility, and do not make the Downlink your only activity for the day
- Invite community stakeholders to participate in presentations or provide engaging audience activities during the day or throughout the year
- List community partners committed to assisting on the event day and provide proof of partnering
- Include plans for a practice connection if hosting a watch party; NASA+ is always streaming
- Provide a sample agenda, including educational activities and logistics
- Have a plan for the extremely rare chance that your Downlink is canceled or rescheduled at the last minute

Measuring Impact and Collecting Data Plan

Post-Downlink, we ask hosts to provide metrics, including audience numbers, responses to social media posts, local news articles covering your event, and VIPs in attendance. As you plan for the event, consider how you will collect basic metrics and data and how you will gauge the impact on the audience.

What are some tips for measuring impact?

- Note both qualitative and quantitative plans to measure the impact of the Downlink on your audience
- Ask for feedback before, during, and/or after the event
- Keep in mind that gathering information post-event can be challenging
- Include pictures of the Downlink and related activities (everyone in the images must have a signed talent authorization form)
- Carefully craft your questions to ensure you get feedback on the areas most important to you
- Don't rely solely on open-ended questions
- Get permission to use quotes
- Survey awareness about space workforce and STEM careers

Community Engagement Plan

In-flight STEM Downlinks are designed to be a community-wide event. Consider innovative ways to engage the community outside your organization. Create community-wide awareness and collaboration for implementing STEM initiatives and sustainability.

What should your Community Engagement Plan include?

- Any community partnerships that have committed to collaborating with you
- The reach of your community engagement plan
- How partnerships will specifically help increase community awareness and sustained STEM initiatives
- Any other community-wide initiatives, events, or collaborations that will support your event and STEM career awareness
- Any Community-Based Learning plans in connection to the In-flight STEM Downlink opportunity

In Conclusion

As a next step, if you have questions, we encourage you to attend one of our virtual question-and-answer sessions. Links with times and dates are on our website. As an alternative, you may also email questions to JSC-Downlinks@mail.nasa.gov.