

# HORIZONS

A publication of the Massachusetts Air and Space Museum

*The Massachusetts Air and Space Museum inspires new generations to explore, experience, and pursue interests and opportunities in science and technology*

Vol. 9 Issue 4

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December 2023

## Third Annual Southeastern Massachusetts Aviation Career Fair

By

Keith Young, Interim Executive Director

When most students think of a career in aviation, they immediately conjure up an image of a dark blue suit jacket and slacks with a matching tie. The shirt is white with blue epaulets and gold stripes indicating the level of experience and rank. Often this is accompanied by a matching hued service cap adorned by gold braid and a badge. Instantly recognizable, this person is obviously an airline pilot. Unfortunately, that's often as far as students get. However, the "uniform" of a person in an aviation career could be government issued or dress casual. It could be jeans, work boots and a Tee shirt with a bright yellow safety vest and a hard hat. It could be a collared shirt, slacks and the same safety vest with ear protection and



**MASM Curator Barbara Jagla welcoming high school students at MASM's high school job fair at Cape Cod Gateway Airport**

*Continued on Page 2*

## American Airlines Soon to Offer Service to Cape Cod

**FORT WORTH, Texas** — American Airlines is adding seven new routes next summer to give customers more ways to plan trips to hike rugged coastal moun-



*Hyannis, MA harbor*

tains, watch whales breach in Canadian waters or feel the sea breeze blow in on the shores of Cape Cod. The expansion includes six new cities from New York LaGuardia Airport (LGA), growing American's network from the Big Apple to 75 nonstop destinations.

"American continues to build a network that gives customers the most comprehensive access to the places they want to visit with nine new routes for next summer," said Brian Znotins, American's Senior Vice President of Network and Schedule Planning. "New service to Hyannis, expanded service from New York, and more international service grows the largest global network in the United States, connecting more cities than any other U.S. carrier, for a summer

*Continued on Page 9*



## From the Cockpit

MASM's high school student job fair in September was another unqualified success. Vendors from all aspects of the aviation industry participated illustrating the many and diverse career opportunities that await these students after high school. This fair demonstrates MASM's commitment to the mission statement that appears on the masthead of every issue of *Horizons* (see page 1).

The museum itself is seeing record numbers of visitors as the word spreads about what is offered within. Noted author Hugh Blair-Smith gave a presentation that both entertained and enlightened MASM guests. And, of course, the many exhibits on display provide visitors with a better understanding of the role Massachusetts has played in the development of aviation and space exploration worldwide.

*Georgia Pappas, President*



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### Museum located at:

438 Main Street Hyannis, Massachusetts  
 (508) 827-6300

### Museum Hours:

Thursday, Friday & Saturday 10:00 AM to 4:00 PM  
 Admission: Adults \$10.00 Children (ages 5-11) \$6.00  
 Active Military with ID: Free

### MASM Business Mailing Address:

200 Hanscom Drive, Bedford, Massachusetts 01730

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### *Continued from Page 1*

bright red wands or maybe coveralls and safety glasses. On September 22nd, the Massachusetts Air and Space Museum, in conjunction with the Cape Cod Gateway Airport,



**MASM Interim Director Keith Young giving US Navy sea cadet volunteers instructions on their assignments**

held an event to persuade young people that there's far more opportunity in the industry than working as an airline pilot. Around 200 students from the southeastern portion of the state arrived at the airport to be exposed to almost 40 exhibitors who were reaching out to share what their expertise was in aerospace and broaden the potential horizons of the young people. These included several branches of the military, government agencies, fuel retailers, airport architects, drone operators, airport



**Massachusetts Air National Guard Recruiter explaining how military service can provide a college education at no cost at Massachusetts state universities and colleges**

management, universities and colleges, nonprofits and even an EVTOL company from Vermont. All these businesses and organizations were focused on distributing information (and some swag) to raise the students' awareness of the many areas open to them for a lifelong career in the world that exists catering to

### *Continued on Page 3*



*Continued from Page 2*



*Students got up close and personal with the movers and shakers and decision makers in and around the entire aviation and space industry learning about career opportunities awaiting them after high school*

the needs of those who leave the ground.

In support of this effort, the museum provided breakfast and lunch for the exhibitors and shared in the cost of the tent that gave the students a launch point. The students were also provided with, courte-



*Drones are playing an ever-increasing role in modern aviation from gathering military intelligence to police surveillance, and varied rescue operations by first responders. They are also becoming more sophisticated requiring more skilled technicians to operate them*

could turn in their completed passports for the chance to win a flight simulation experience with Cape Air on their high end trainer.

Speaking of simulators, the museum provided a portable flight simulator that was busy all day with young people who wanted to try their hand at flying a J-3 Piper Cub in a virtual environment around the Hyannis area. The museum also provided around 15 volunteers who interacted with the students and assisted them in finding what areas of interest they may



*Many businesses and associations throughout the Bay State that offer scholarships which are focused within the space and aviation disciplines were on hand with outstretched hands to students.*

sy of the CCGA, pens, a balsa glider, stickers, lollipops and a bag to hold their goodies. Additionally, each student was given a passport with suggestions for questions to ask the exhibitors. Once students spoke with exhibitors and received a passport sticker, they



*There was lots of fun available at the fair in addition to all the career planning. Here students and volunteers are busy with the flight simulator at the MASM booth*

*Continued on Page 11*

# From the Collection

By

Barbara Jagla, Curator

We recently received a framed photograph entitled “City of Boston 1933” that included the area of Boston’s early airfield. Upon inspection of the 10.5” x 13.5” sepia toned photograph, the label on the reverse indicated the date of 12/12/33 with a title of “Boston Fuel Transportation” taken by Aerial Photos International, Inc. Looking at the middle of the photograph, we see an area known as Jeffries Point.

Starting in 1922, work began by the U.S. Army for an aircraft landing site on 189 acres of land at Jeffries Point tidal flats in East Boston. On June 13, 1923, Boston’s first aircraft touched down on a 1,500-foot cinder runway on the airfield known as Boston Air Port at Jeffries Point.

On Sept. 8, 1923, Boston Airport was officially dedicated. At that time it was mainly used by World War I pilots from the Massachusetts Air National Guard 101<sup>st</sup> Observation Squadron and the United States Army Air Corps. The Boston Aircraft Corporation completed the first commercial hangar in 1925.

In 1926 Colonial Air Transport initiated airmail flights, serving a United States Postal Service contract. Colonial Air Transport’s first scheduled commercial passenger flights were between Boston and New York City in 1929 using Fokker aircraft. Crocker Snow, a pioneer in aviation, founded Skyways, one of Boston’s first commercial airlines, headquartered at Boston Airport in March 1928.

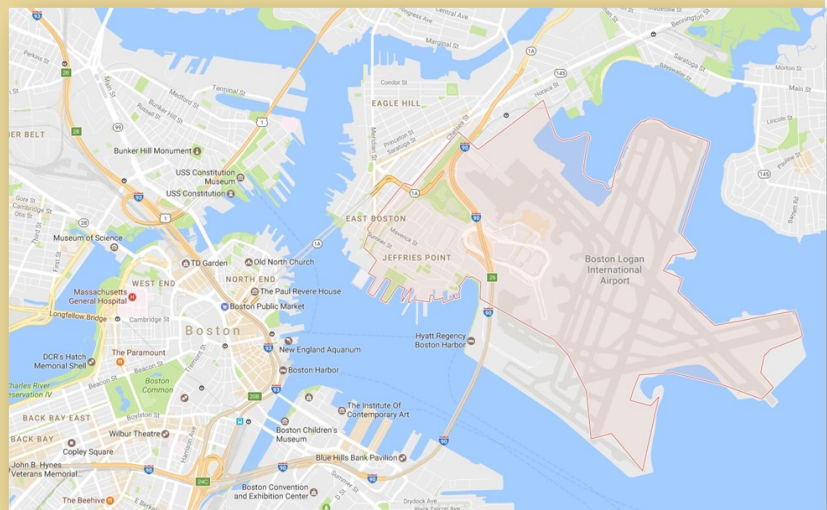
In 1928, ownership of the airport was transferred from the U.S. Army to the Massachusetts Legislature. The following year, the city of Boston stepped in and took control with a 20-year lease from the state.

Crocker Snow wrote the first comprehensive aeronautical law for Massachusetts in 1939. He became the first director of the Massachusetts Aeronautics Commission.

During the 1940s and 1950s, due to the rise in demand for air travel, the airport added 1,800 acres (2.8 sq mi; 7.3 km) of landfill in Boston Harbor, taken from the former Governors, Noddle’s and Ap-



***City of Boston 1933 Closeup of Jeffries Point Airfield***



***Map showing Jeffries Point today***

ple Islands. In 1943, the state of Massachusetts renamed the airport after Maj. Gen. Edward Lawrence Logan, a Spanish–American War officer from South Boston.

Boston Logan Airport celebrated 100 years of history this year with the opening of the newly expanded Terminal E. The airport now serves as the transportation gateway to Massachusetts and New England, serving an estimated 33.6 million passengers in 2023. ✈️

## **How Boston Evolved**





Eastern New England Chapter of The Ninety-Nines  
International Organization of Women Pilots

**APPLY NOW FOR**



# **FLIGHT SCHOLARSHIPS 2024**

**\$13,000 IN SCHOLARSHIPS AVAILABLE**

**APPLICATIONS DUE BY DECEMBER 15, 2023**

✈ **\$3,000 The ENE 99s Candie Oldham Honorary Scholarship**  
honors a long-time member of our Chapter and is open to a man or woman who has at least soloed.

✈ **\$5,000 The William Bridge Scholarship**  
is funded by ENE Chapter member Ann Bridge Baddour in memory of her father, and is open to a woman with at least a private pilot certificate who is pursuing an advanced rating.

✈ **\$2,000 The Jeanne Ohnemus/ Cynthia Hurvitz Scholarship**  
is open to a woman who is pursuing an advanced rating.

✈ **\$1,000 The ENE 99s Takeoff Scholarship**  
is funded by an anonymous donation to the chapter. This scholarship is open to a woman who has a student pilot certificate and who has flown at least 4 hours of flight training in the 6 months prior to the application submission.

✈ **\$2,000 The ENE 99s Takeoff Scholarship**  
is funded by generous donations from ENE Chapter members. This scholarship is open to a woman who has a student pilot certificate and who has flown at least 4 hours of flight training in the 6 months prior to the application submission.

## **Scholarship Requirements**

- ✈ Must be a resident of one of the six New England states who is studying anywhere in the US, or a resident of any state who is studying in one of the New England states.
- ✈ Candidate must be at least 16 years old and studying in some area of aviation, at a duly accredited school, college flight school, or flight training through an FAA approved flight school or individual flight instructor.
- ✈ Must have financial need for a scholarship.
- ✈ Must have a current FAA Medical Certificate or BasicMed.

**DOWNLOAD YOUR APPLICATION NOW**

**[www.womenpilotsene.org](http://www.womenpilotsene.org)**

# MASM Offers Author's Insight on Space Race

By

**Barbara Jagla, MASM Curator**

Many thanks to Hugh Blair-Smith for his fascinating presentation in the Massachusetts Air and Space Museum's function room during the evening of October 12, 2023. Blair-Smith shared his book Left Brains for the Right Stuff - Computers, Space and History with audience members.

Left Brains for the Right Stuff ... briefly summarizes the history of three technologies—rockets, navigation, and computers—and recounts how they were woven into the rise and rivalry of superpowers in the twentieth century. President John F. Kennedy inherited a small Space Race and transformed it into a Moon Race by creating the Apollo program, "... achieving the goal, before this decade is out, of landing a man on the moon." To make it an "offer" the Soviet Union couldn't refuse, he added, "We choose to go to the moon ... not because it is easy, but because it is hard." Apollo won the moon race and, combined with the space shuttle, won the space race, which did much to win the Cold War and preserve the momentum of American leadership that had been created in World War II.

Many big companies worked on those programs, and so did a small academic research laboratory. At Massachusetts Institute of Technology (MIT), the Instrumentation Laboratory ("*the lab*") was the creation of one man, Charles Stark "Doc" Draper, who invent-

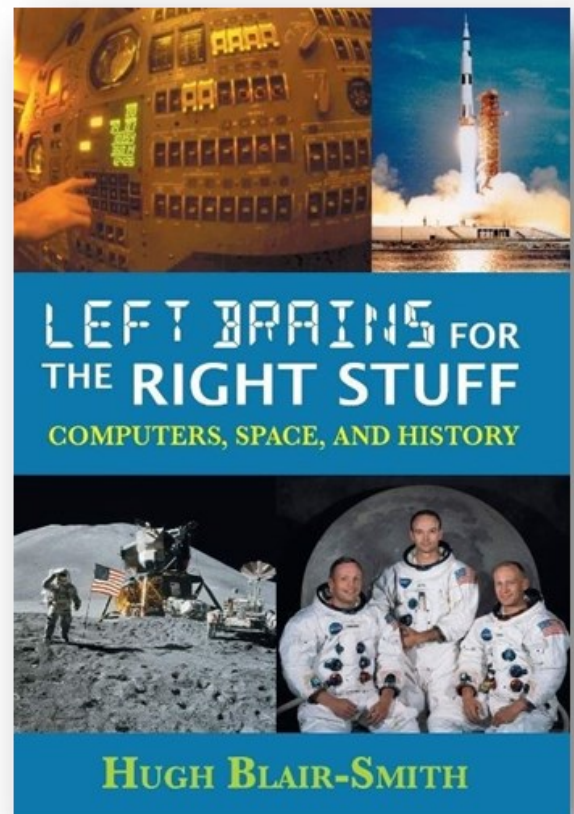
ed inertial navigation.

Author Hugh Blair-Smith was a staff engineer at "*the lab*" from 1959 through 1981. Trained as an electronic engineer and computer scientist, his two-pronged expertise contributed to both the hardware of spacecraft computers and the programming that had to make the most of their limited resources.



***Hugh Blair-Smith presenting at MASM***

This is a history, an inside story, and a riveting account of the Space Race, studded with startling insights into causes and effects. In those exciting years, Blair-Smith joined many thousands of people in cooperating gladly, generously, and passionately to add electronic left brains to the right stuff. Their creations answered the long-sought quest for "a moral equivalent to war."

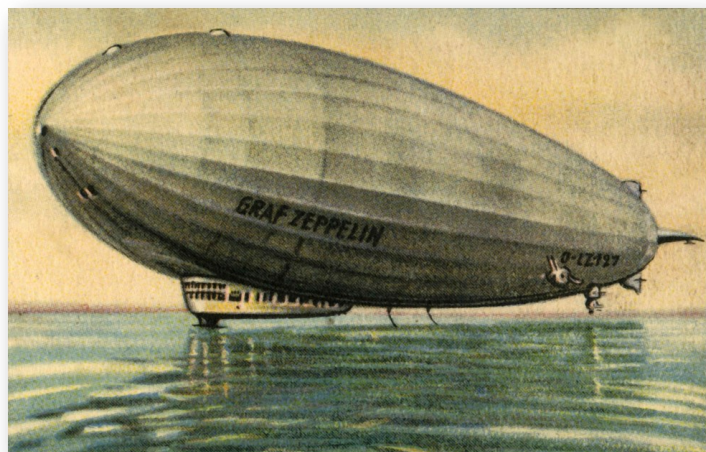


***Book by Hugh Blair-Smith***



# Airships On the Rise Again?

While some in aviation have been obsessed with ever-increasing speed of flight and ever-increasing altitudes, many dream of experiencing flight as many



*Graf Zeppelin, first post-WWI commercial airship*

birds do: lower levels and slower speeds provide a bird's-eye-view. Could it be for this reason that actual airships are about to reemerge into the world of aviation?

The [Hindenburg](#) disaster in the late 1930s spelled the death knell for the passenger airship industry. But war coupled with the ability of airships to remain aloft for protracted periods of time and surveil enemy movements kept them in the air. Despite giant leaps in aviation technology over the past eighty-six years, the potential role for airships in a bustling avionic world may be coming of age.

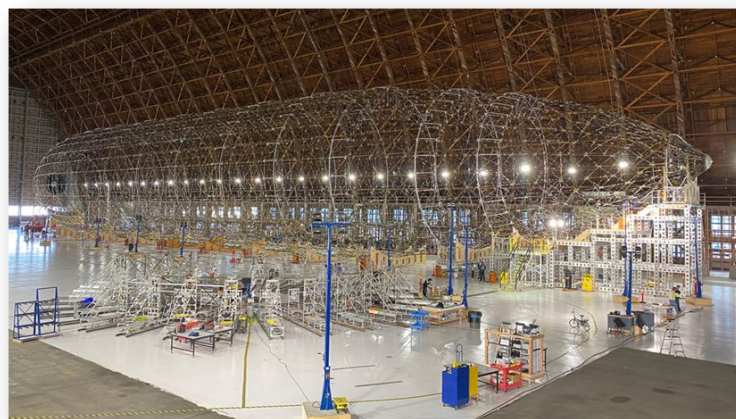
Airplanes, especially large passenger and cargo airplanes, require enormous facilities on the ground that have runways, terminals, and fueling facilities to service their needs. Commercial airports have giant footprints, contain single-purpose buildings, and maintain expensive and specialized equipment to meet the demands. Commercial aircraft themselves have grown larger and much faster in order to meet the growing demands of both freight customers and passengers who are all in hurry to get themselves or

their goods someplace quicker. For these reasons, hub-and-spoke airports have become aviation cities unto themselves.

Airships may be slower in the air, and they might fly closer to the ground than all those commercial jets zooming overhead, often above the weather. But the upside to the seemingly lethargic pace of airships is that they require a tiny fraction of the space of an airliner for take off and landing, they don't require a pressurized cabin because they seldom venture high enough to require additional oxygen for passengers and crew, and compared with jet liners they are spacious by comparison. Their short take off and landing requirements make them ideal as heavy-lift carriers of emergency supplies to locations of natural disasters where conventional airports have been rendered useless by either weather, catastrophic events like earthquakes or volcanoes, or even war torn regions where humanitarian and medical aid is critical.

Being able to float into a landing site that is less than the size of the average strip mall parking lot means that airships have a wider field of possibilities when it comes to establishing regular air services from one point to another. In Britain, Hybrid Air Vehicles has a prototype flying called the Airlander 10 that achieves the elimination of 75% of carbon emissions compared with conventional aircraft.

Google cofounder Sergey Brin is banking the develop-



*Rigid framework of LTA's Pathfinder 1*

*Continued on Page 8*




***Hybrid Air Vehicles Airlander 10, affectionately known as “The Flying Buttocks”***

ment of a rigid airship construction by a California company called Lighter Than Air, or LTA for short. When completed it will be similar in shape to the former Hindenburg, but constructed with space-age materials and offering a 28 ton payload capacity, roughly two and a half tons more than a Boeing 737 Max.

Both England and France have companies working on the development of hybrid airships with ambitious commercial markets in mind. In England, the Airlander 10 has been designed to address two such markets. The first is luxury exotic excursion customer who wants to venture to the north pole on a three-day holiday. The second is competition with the short-distance air routes where the Airlander 10 can land almost anywhere without the need for airport infrastructure. While sacrificing some additional time for the flight from point to point, passengers won't have to contend with all the hassles and inconveniences that are part and parcel with jet transportation. But, airship travel will cut nearly in half the time

it takes to cover the same distance by ferry.

France's Flying Whales are being designed as transport carriers with cargo capacities of up to sixty tons. Aside from the potential of picking up and depositing cargo containers right off the decks of ships at sea, the primary industry in France that is being targeted by Flying Whales is logging. France has considerable forest lands, but access by road to where the wood can be harvested is virtually nonexistent. With the heavy lift capability of a Flying Whale, logs can make it to sawmills faster, more efficiently, and cheaper than they can through ground transportation.

With cutting edge propulsion technologies, hybrid engine systems that utilize hydrogen fuel cells and/or solar generated electricity, plus lighter and stronger structural materials, the soon-to-be airships of the Twenty-first Century promise to be both beautiful show horses and strong work horses of the air. 



like no other.”

Flights to Hyannis will be available for purchase starting Oct. 23 on aa.com or American’s mobile app. Tickets for other routes will be available for purchase starting Oct. 16 on aa.com or American’s mobile app.

### New routes to the Northeastern coast

Starting June 5, 2024, American will add service for the first time ever to Hyannis, Massachusetts (HYA), with new daily service from LGA and Washington Reagan National Airport (DCA). American will be the only global network carrier serving the airport, connecting more than 80 destinations across North America with one stop to the gateway to Cape Cod.

In addition, American will also add service to five cities along the Northeastern coast from LGA, including operating the only service from the airport to Halifax, Canada (YHZ).

### Connecting coastal New England to the world

Next summer, American will offer more than 20 daily departures from Maine to six gateways across the U.S. With one-stop connections to more than 200 destinations around the world, American will offer the best network and schedule for customers to easily visit Maine's rugged coastline, delight in local lobster and explore natural landscapes.

American is the only U.S. airline flying to Nova Scotia, providing access to the Bay of Fundy and the iconic Peggy's Cove. For off-the-beaten-path destinations, Nova Scotia is home to Acadian Skies and Mi'kmaq Lands, a starlight reserve offering a glimpse into our universe unlike any other.

### American enhances global network for more ways to see the world

- American will add seven new routes next summer to coastal destinations in New

England and Nova Scotia

- American will also launch service on two additional international routes next summer

- Hyannis, Massachusetts, will join the largest global network of any U.S. airline starting next June

- This year, American has announced more than 45 new routes, growing the most comprehensive route network connecting more unique city pairs than any other U.S. airline

LGA and Washington Reagan National Airport (DCA). American will be the only global network carrier serving the airport, connecting more than 80 destinations across North America with one stop to the gateway to Cape Cod.

In addition, American will also add service to five

From	To	Service begins	Service notes	Aircraft type
DCA	Hyannis, Massachusetts (HYA)	June 22, 2024	Daily summer service	Embraer E175
LGA	Bangor, Maine (BGR)	June 5, 2024	Daily summer service	E175
LGA	Halifax, Canada (YHZ)	June 5, 2024	Daily summer service	E175
LGA	HYA	June 5, 2024	Daily summer service	E175
LGA	Martha's Vineyard, Massachusetts (MVY)	June 22, 2024	Daily summer service	E175
LGA	Nantucket, Massachusetts (ACK)	June 22, 2024	Daily summer service	E175
LGA	Portland, Maine (PWM)	June 5, 2024	Twice daily year-round service	E175

cities along the Northeastern coast from LGA, including operating the only service from the airport to Halifax, Canada (YHZ).

For customers looking to add a new stamp in their passport next year, American is gearing up to launch

Continued on Page 10

service to new destinations in Europe. In August, [American announced new summer 2024 service](#) to Copenhagen, Denmark (CPH); Naples, Italy (NAP); and Nice, France (NCE), providing access to unforgettable memories via gateways to the iconic Nyhavn harbor, the picturesque Amalfi Coast and the glitz of the French Riviera.

### Travel like a pro with AAdvantage

The American Airlines AAdvantage® loyalty program is a rewarding travel companion that can help customers build toward more travel and experiences. AAdvantage members can use miles for flights to nearly 1,000 destinations worldwide and throughout the travel journey. See below for a few ways to treat yourself:

- Make your travel more rewarding with the Citi®/AAdvantage® Executive World Elite Mastercard, including access to Admirals Club lounges with up to two guests when flying on an eligible itinerary.
- Use miles to reserve the best seats or upgrade your travel for extra legroom and complimentary snacks and drinks.
- Earn rewards faster with Loyalty Point Rewards before, between, and beyond status levels.

Travelers who are not AAdvantage members can [join for free](#) to earn miles and Loyalty Points.

### About American Airlines Group

To Care for People on Life's Journey®. Shares of American Airlines Group Inc. trade on Nasdaq under the ticker symbol AAL and the company's stock is included in the S&P 500. Learn more about what's happening at American by visiting [news.aa.com](https://news.aa.com) and connect with American [@AmericanAir](https://twitter.com/AmericanAir) and at [Facebook.com/AmericanAirlines](https://Facebook.com/AmericanAirlines).

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**American Airlines** 



### December 7, 2023:

**Aviation for Kids, 8 to 80 years of age**

80 Radio Control Aircraft  
Colin Towers

### January 11, 2024:

**US Coast Guard Aviation Rescue**

Capt. Robert Potter, Commanding Officer

### February 15, 2024 at 10:30 AM

**Air Care Alliance**

Mark Hanson

### March 14, 2024:

**Book Talk:**

**The Secret Life of Howard Hughes**

Author Mark Musick

### March 28, 2024:

**9:30 to 2:30**

**Tentative**

**Massachusetts General Aviation Forum**

GA leaders from around the state share their mission and event dates.

Unless otherwise noted, listed events are held at the Museum, 438 Main Street Hyanis, MA on the second Thursday of each month other than December, from 6:30 to 8:30 PM, with doors opening at 6:00 PM. All events are offered free to the public.

Watch our website for more details:

<https://www.massairspace.org/>



# 2023 Albuquerque International Balloon Fiesta

Albuquerque, New Mexico again played host to the 51st annual International Balloon Fiesta this past October. Intrepid balloonist from around the globe



*Balloons fill the air over New Mexico*

came to display their colorful and diverse equipment, demonstrate their skills as balloon pilots, and to compete in events designed to test the equipment and their skills.



*Special shape balloons*

new and unusual balloons that hardly fit the stereotypical definition of a hot air balloon. There is even a balloon race for time and distance. The event this year was an unqualified success! 🎈

**Play**

*Continued from Page 3*

be seeking. Other volunteers included the Naval Sea Cadets who were an integral part of the day's operation.

If you are interested in getting involved with this event for next year, it has been targeted for the third week in October of 2024 which is STEM week in Massachusetts. Mark your calendars and contact Keith Young at [kyoung@massairspace.org](mailto:kyoung@massairspace.org). 🚀

## MASM Host the Boy Scouts of America for Space Badge

On Saturday, November 18th, the museum played host to 18 scouts, with their leaders, as they worked on their Space Exploration Merit Badge. Eight differ-



*Astronaut Suni Williams answers questions from the scouts*

ent troops were represented from the southeastern corner of the state. Joining the scouts, by way of Zoom, Astronaut Sunita "Suni" Williams shared her experience of getting to space and some of the missions she has been involved in. Additionally, the groups learned about how a rocket functions, The scouts also created "astronaut collector cards" which they shared with the group and a scrapbook about the Perseverance rover. Many of the boys and girls were able to complete all of the requirements to earn their badge. The scouts also visited the museum and used the flight simulators during their lunch break and while waiting for parents to pick them up. 🚀

# CAVU.

Most people familiar with aviation know that the abbreviation “CAVU” stands for “Ceiling and visibility unrestricted.” In this recurring feature of **Horizons**, your ability to see clearly into the history of aviation will be tested through identification of flying machines that once were. The first reader who submits the correct answer will be entitled to bragging rights and have their name and answer published in the subsequent edition of **Horizons**. Submit your name, the name of the aircraft, the type or version (if applicable), and the country where it was manufactured to the editor-in-chief of **Horizons** at: [horizons@massairspace.org](mailto:horizons@massairspace.org)

*Here is your challenge for this edition:*



For additional content, click on many of the photos in this edition except this one. You'll find videos and links for more information!

## September 2023 Edition's Answer



**Transall C-160—France and Germany three crew tactical transport**  
**Engines:** two 6,100 ehp (4,549 kW) Rolls-Royce Tyne RTy.20 Mk 22 turbo-props—**Max. speed:** 319 MPH (513 km/h)  
**Ceiling:** 27,000 ft (8,230 m) **Range:** 1,150 mi, (1,853 km)  
**Dry weight:** 65,935 (29,000 kg) **Max. take-off weight:** 112,435 lb (51,000 kg)  
**Dimension:** Wing span: 131 ft 3 in (40.0 m); Height 38 ft 2.75 in (11.65 m); Wing area 1,722.3 sq ft (160.0 m<sup>2</sup>)  
**Payload:** 93 troops, or 88 paratroops, or 62 litters and four attendants, or 35,273 lb (16,000 kg) of freight  
**Correct Answer: No takers on this one!**