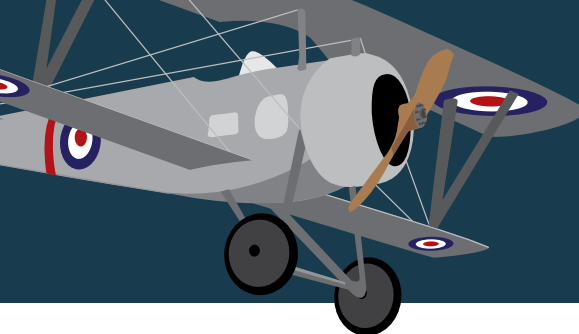


aloft

THE MUSEUM OF FLIGHT MAGAZINE



VOL. 40, ISSUE 5
SEPTEMBER/OCTOBER 2018



MEMBER EVENTS

For all events, please RSVP to membership@museumofflight.org.



© WARNER BROTHERS

MEMBER MOVIE NIGHT DUNKIRK

In the early days of WWII, the German Army surrounded Allied soldiers from Belgium, the British Empire, and France in the French coastal town of Dunkirk. As 400,000 troops await their fate on the beaches, help will come from the air and sea in an operation that would defy all expectations. Rated PG-13 for intense depictions of war and strong language.

WILLIAM M. ALLEN THEATER
Friday, Oct. 5 | Movie starts at 6 p.m.
Doors open at 5:30 p.m.

Sponsored by: 

STEM starters

STEM Starters is a monthly program series geared specifically for our youngest Members ages 3 to 5 and their co-pilots! *For the safety and success of your young learner, one adult helper is required to be present and participate.*

BIRDS, BUGS, & BATS! 4 sessions available!

We will explore the buzzing, flapping, flitting world of natural flight. This workshop will include hands-on stories, activities, and projects about birds, bugs, and bats.

Monday, Sept. 10 and Monday, Oct. 8
Two Sessions each day:
10:30 to 11:30 a.m. or 3 to 4 p.m.

All sessions are in the
NORTHWEST AEROCLUB ROOM
Red Barn, 1st Floor

RSVP required. To attend, email us at membership@museumofflight.org.

Space is limited to 12 adult/child pairs at each program. Due to limited space, supplies and age-appropriate curriculum, we are unable to accommodate additional children (such as younger siblings), even if they are not participating. Thank you for your understanding and cooperation!

THE MUSEUM OF FLIGHT Restoration Center and Reserve Collection

MEMBERS-ONLY OPEN HOUSE

Saturday, Sept. 22
11 a.m. to 2 p.m.

The Museum of Flight's Restoration Center and Reserve Collection at Paine Field is a 23,000-square-foot site where thousands of volunteer hours are devoted to renovating and restoring aircraft to exhibition quality. Join us for our annual Open House and come see what we're up to!

The Museum of Flight
Restoration Center and Reserve Collection
2909 100th St. SW, Everett, WA 98204

EXCITING NEW BENEFITS ARE COMING TO MEMBERSHIP!

Please see page 8 for details.



Want to see artifacts in the Museum collection not normally on view?

Join us for *Coffee with the Curator*. You're welcome to bring your lunch—coffee and dessert is on us! Featuring Red Barn blend coffee, available exclusively in our Museum Store. **RSVP to membership@museumofflight.org to attend.**

B-52G RESTORATION & VIETNAM COLLECTIONS

NORTHWEST AEROCLUB ROOM
(RED BARN, 1ST FLOOR)
Friday, Sept. 21 | Noon to 1 p.m.

Please join us in September as our Director of Aircraft Collections and Restoration discusses the restoration of the Museum's Boeing B-52G and what was required to disassemble and move the aircraft from Paine Field to the Seattle campus. Collections staff will share Vietnam-related objects, archival and library materials, and explain how they support the new Vietnam exhibit in the T.A. Wilson Great Gallery and are being made available to researchers.

WEIRD AND WONDERFUL

NORTHWEST AEROCLUB ROOM
(RED BARN, 1ST FLOOR)
Friday, Oct. 19 | Noon to 1 p.m.

Join us in October for our third annual edition of our "Weird and Wonderful" Coffee with the Curator! During this presentation, the collections staff will share odd, head-scratching, and strangely wonderful items from our Collection.

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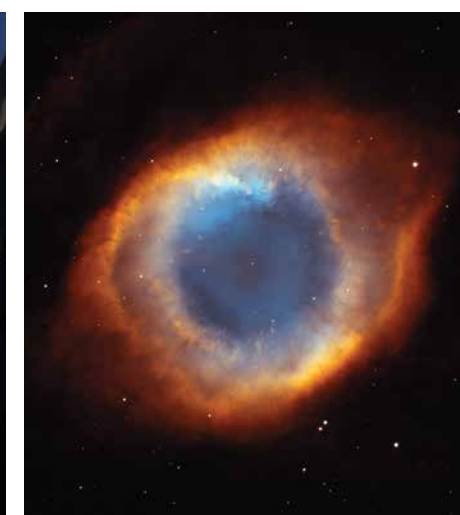
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CONTACT THE MUSEUM
www.museumofflight.org
24-Hour Info Line: 206.764.5720



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ALOFT STAFF:

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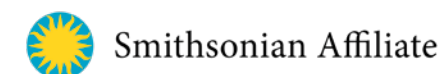
Web Producer: Layne Benofsky

On the cover: "Dawn of the Golden Age of Flight," by photographer Rick Gauthreaux. This image was the First Place Winner in the Spirit of Flight Photography Exhibition. Read about the other winners on page 16.

Questions or Comments?
Email us at aloft@museumofflight.org

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NOTE: In the July/August issue, on page 17, the date for the film *Platoon* in our Vietnam Film Series was listed incorrectly; the correct date was July 29, not July 18. On page 21, we missed the last three words—Geodesy and Heat Transport—that compose the acronym for the Mars InSight lander. The acronym stands for "Interior Exploration using Seismic Investigations, Geodesy and Heat Transport." On page 4, Stephen Elop is a Trustee for the Museum and he was mistakenly omitted from the Trustee list. We apologize for these errors.



THE MUSEUM OF FLIGHT

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THROUGH HIS LENS

"AIRCRAFT HAVE SOULS, JUST LIKE PEOPLE..." I have heard some version of that statement time and again from aerospace lovers. I won't begin to opine on the metaphysical state of a complex piece of metal, cloth, or composite. But I can assure you that like humans, aircraft and spacecraft can have rich, fascinating, and impactful histories. One can randomly pick an artifact and be assured its stories go far beyond a moment in time or a place in history.

Take the Museum's Spitfire, a plane that has a historic lineage as well as personal connections to me. MK923 was built in 1944 in England and one of its first combat flights was in support of the D-Day invasion. With a start like that, most people would ignore the next 74 years of its history.

But MK923 has lived 74 more years. It saw combat again in 1947 with the Royal Netherlands Air Force when, after being shipped to Java, it was involved in the unsuccessful Dutch attempt to reestablish the colonization of Indonesia. It joined the Belgian Air Force in 1952, and went into private Belgian hands in 1958 towing targets. Its extensive movie career began in 1961, flying over the beaches of Normandy in the *Longest Day* before being owned by Hollywood legend Cliff Robertson from 1963 well into the '90s. The stories that can be told throughout its 20th-century life are vast.

But there are also the personal connections. The strange picture of a boy "taking flight" is a young Matt who months later would go to an airshow in Hamilton, Ontario. Overcome with sunburn and tired feet, I saw some of the most incredible aircraft I had seen to date, including a Spit that was gracefully twirling through the air. Flash forward 30 years to me at the Museum reading the placard for our Spitfire that mentions its past owner, Robertson. The memories the planes at Hamilton in the 80's not only flashed in my mind, but so did the words and the smile of my mother when she heard the radio announcer mention the Spitfire's owner: a childhood heartthrob of Mom's, Cliff Robertson. It was the same plane.

In typing this story, I find the aviation connections continue. Just yesterday I was up at the Arlington Air Show and saw veteran performer Bud Granley fly an incredible show—one that I've seen many times over the past couple of decades. And who do you suppose ferried MK923 back to the West Coast in the mid-'90s? You guessed it, Bud Granley.

So do planes have souls? I don't know. But I do know that their stories can live and breathe and intertwine with our lives. That their histories can be as exciting as any novel or biography. And that like us, their lives are full of the impossible, the mundane, and the sublime. Come and find a soulmate, and maybe a long-lost friend, at The Museum of Flight.

Cheers,

Matt Hayes, President and CEO



Museum Flashbacks

TOP LEFT: The Museum takes its Outreach Booth to aviation and community events about six times a year. Most of them are in the Puget Sound region, but this June we brought our stuff to the big skies of Montana and the Aircraft Owners and Pilots Association Missoula Fly-In. Among the hundreds of new friends made there was a kindly pilot who flew our DC-2 when it was used to haul smoke jumpers for Johnson Flying Service in Missoula many decades ago! • The Travel Channel's *Mysteries at the Museum* series returned for their tenth story here. The focus on this particular episode was the Apollo 10 mission, so our Apollo 10 space suit worn by John Young was given the star treatment. • Gada Ahmed was one of nine students to be awarded educational and flight training scholarships in the Museum's inaugural scholarship program. • Orbis International President and CEO Bob Ranck (left) and Boeing Commercial Airplanes President and CEO Kevin McAllister (right) field questions from the media inside of the Orbis MD-10 Flying Eye Hospital. The unique airplane was on exhibit for tours at the Museum in July and during Jet Blast Bash in August. Ranck, by the way, is a former US Air Force pilot who flew missions on the Museum's Air Force One when he was with the service! • A group of professional detailers, who call themselves the Detail Mafia, volunteered once again this summer to spruce up SAM 970 (Air Force One), and with a larger-than-ever team of 60 they were able to spread their magic to the B-29 and other planes in the Aviation Pavilion, including the 747 prototype. Here a group polishes Queen of the Skies' nacelles to a mirror finish! • Museum volunteer and former Pan Am flight attendant Lora Reed Ford greets mother and child with a complimentary chocolate as they enter the lobby during the Museum's first Mother's Day Celebration. The day was free for moms, and the family programs were well recieved. See you next year!

FROM THE DAYS OF SAILING SHIPS

QUESTIONS ANSWERED BY: JOHN LITTLE, ASSISTANT CURATOR AND RESEARCH TEAM LEADER



A RED NAVIGATION LIGHT ON AN AIRCRAFT WING TIP.

Q: WERE THE DOUGLAS WORLD CRUISERS (DWCS) THE FIRST AMERICAN AIRCRAFT TO HAVE FACTORY-INSTALLED NAVIGATION LIGHTS?

A: First, let's define "navigation lights," which actually date from the days of sailing ships. Navigation lights are small, colored lights that enable other air traffic to determine an aircraft's orientation at night. The left wing tip carries a red light, the right wing tip carries a green light, and the rear of the aircraft carries a white light. So, for example, if a pilot is flying at night and sees three lights in a row, red-white-green, from left to right, that pilot knows that he or she is approaching another aircraft from dead astern. According to Curator Emeritus Dennis Parks, navigation lights were installed on the Douglas DT-2 torpedo bomber, which preceded the DWCs by two years (first flights: November, 1921, and November, 1923, respectively). Dennis also found, however, that navigation lights were installed on American airships at least as early as 1917.

Q: WAS THE MUSEUM'S REPUBLIC P-47 THUNDERBOLT BUILT IN FARMINGDALE, NEW YORK, OR IN EVANSVILLE, INDIANA?

A: The full designation for the Museum's P-47 is "P-47D-2-RE," which indicates that it

was built at Republic's plant in Farmingdale, Long Island, New York. The clue is the manufacturer's code, "RE," which indicates that the airplane was built by "REpublic Aviation, Farmingdale, New York." By contrast, all P-47s that were built at Republic's Evansville, Indiana, plant carried the manufacturer's code "RA," for "REpublic Aviation, Evansville, Indiana."

Q: MY BROTHER FOUND A FUEL TANK THAT WAS MANUFACTURED BY THE BOEING AIRCRAFT COMPANY. FUEL CAPACITY: 212.5 GALLONS, U.S.; PART NUMBER 75-5017-1; SERIAL NUMBER 4286; DATE OF MANUFACTURE 9-20-40. CAN YOU TELL ME FROM WHAT BOEING AIRPLANE THE TANK COMES? (THE PRIOR OWNER WAS THINKING OF MOTORIZING IT AND TAKING IT TO BURNING MAN.)

A: Driving around in a motorized fuel tank at Burning Man? What could possibly go wrong there? Obviously, this was another case for our ace research volunteer, Bruce "Sherlock" Florsheim, who really outdid himself this time. Here is Bruce's reply. "The size of the fuel tank, 212.5 gallons, says it is from a large airplane. The date of manufacture, 9-20-40, narrows it down to 4 Boeing airplane types, most likely a B-17. Checking the B-17 first, I found a match. The B-17's inboard fuel tanks were of that size,

What's new in the collection?

BY: CHRISTINE RUNTE, REGISTRAR

Aaron Cardis and his family are frequent visitors to the Museum, and after seeing some of our early aviation exhibits, he thought that we might be interested in his Hindenburg dishes. Max Henneberg, father of Maxine Henneberg and grandfather of Aaron Cardis, began working as a Room Steward on the Hindenburg in 1935. He was on the Hindenburg at the time of its crash at Lakehurst, New Jersey, in 1937. He escaped through a window in the dining room, waiting until the zeppelin was close enough to the ground so he could jump. The dishes are some of the memorabilia he collected while affiliated with the Hindenburg. His collection was eventually left to his three daughters, including Maxine, and passed down through the family. Max Henneberg is highlighted on the Faces of the Hindenburg website, facesofthehindenburg.blogspot.com.



THE MUSEUM OF FLIGHT COLLECTION

but the outboard tanks were larger....The only B-17s that were being built when the fuel tank was manufactured were B-17Cs. Ergo, the tank was used on a B-17C bomber." Hopefully, that makes the tank too valuable to be sacrificed at Burning Man!

HAVE A QUESTION?

Submit it to aloft@museumofflight.org and it could appear in the next issue of *Aloft*!



STUDENTS PRESENTING AT THE PPGS GRADUATION/THE MUSEUM OF FLIGHT

Supporting Future Pilots

THE MUSEUM'S PRIVATE PILOT GROUND SCHOOL (PPGS) has been one of our most popular programs since it launched in 2015 to meet the growing demand for aviation professionals. This 90-hour class offers high school students the opportunity to explore aviation and begin learning the technical knowledge to pass the Federal Aviation Administration private pilot written exam, as well as earn high school and college credits for free.

This summer, the Museum celebrated the achievements of the 96 students who completed the curriculum in 2018—our largest enrollment ever! Delta Air Lines Seattle Vice President Tony Gonchar addressed the students at their graduation in July: "Your being here is no small achievement," he said. "It's exciting to see so many young men and women tap into their interest in aviation, aerospace and aerodynamics. Continue to work hard and focus on your dreams."

The PPGS program is in partnership with Raisbeck Aviation High School, Puget Sound Skills Center and Green River College. This year marks the beginning of a 3-year sponsorship from Delta to provide funds for student recruitment, program supplies and scholarships. Delta professionals also provided curriculum support for students. Thank you for encouraging the next generation of pilots to "Keep Climbing!"



STAY UP-TO-DATE by liking and following our new **Boeing Academy for STEM Learning Facebook and Twitter** pages to keep up with news, updates, and videos about our hands-on education programs.



LEFT TO RIGHT: Anthony Bui, Sameer Romani, Gada Ahmed, Matthew Yamashita, Brooklyn Cross, Alexandra Reyes, Scarlett Stelzer, Hunter Whitlock, and Dane Anders. CREDIT: THE MUSEUM OF FLIGHT

Funding a Future in Aviation

THIS YEAR, THE MUSEUM'S Boeing Academy for STEM Learning granted five new annual scholarships to pursue flight training and post-secondary aviation education to nine Seattle area high school students. Requirements included participating in one or more of the Museum's Academy programs and demonstrating an intention to pursue aviation or aerospace. Thanks to the generous endowments established by Jim and Sue Johnson, Alaska Airlines, Pacific Northwest Business Aviation Association, and the Estate of Frank "Sam" and Betty Houston, these students received a total of \$143,000. The scholarships were awarded in a reception at the Museum on June 11, where investors personally commended the recipients. Many of these talented Academy alumni have already earned licenses and college credits, and we can't wait to see what they achieve in the future. Congratulations to Dane Anders, Gada Ahmed, Anthony Bui, Brooklyn Cross, Alexandra Reyes, Sameer Romani, Scarlett Stelzer, Hunter Whitlock, and Matthew Yamashita.



THE MUSEUM OF FLIGHT

Montana Welcomes WAS!

THE WESTERN AEROSPACE SCHOLARS (WAS) annual Junior Summer Residency touched down at the Montana Learning Center and opened their inaugural Montana residency. In this 6-day program, already well-established at the Museum for Washington and Oregon residents, students plan a crewed trip to Mars covering all aspects of mission planning including getting there and back, living and working there, mission integration, public relations, and ethics. This program joined three Museum-hosted sessions of Junior WAS and eight sessions of Sophomore WAS across Washington, Oregon, and Montana, in which students plan a robotic mission to Mars in three days.

THE MUSEUM OF FLIGHT MEMBERSHIP

NEW Member benefits & rates go into effect October 1, 2018!

We are enhancing and updating our membership program to welcome *Destination Moon* next spring. We invite you to renew today to lock in your current rate for 2019. Extend your membership for another year and take advantage of additional benefits!

	NAVIGATOR	AVIATOR	CAPTAIN	FLIGHT LEADER	BARNSTORMER	BARNSTORMER GOLD
Unlimited FREE admission for one year	\$89 2 adults	\$119 2 adults + all children/ grandchildren under age 18	\$169 2 adults + all children/ grandchildren under age 18	\$299 2 adults + all children/ grandchildren under age 18	\$500 2 adults + all children/ grandchildren under age 18	\$1,000 2 adults + all children/ grandchildren under age 18
NEW! Digital membership card option	●	●	●	●	●	●
NEW! Discounted admission to <i>Destination Moon</i> traveling exhibit (Coming in 2019!)	●	●	●	●	●	●
NEW! Special Member-only access to <i>Destination Moon</i> traveling exhibit (Coming in 2019!)	●	●	●	●	●	●
Subscription to <i>Aloft</i> , The Museum of Flight magazine	●	●	●	●	●	●
15% discount on all Museum Store purchases	●	●	●	●	●	●
Discounts on movie tickets, simulator rides, and ticketed events	●	●	●	●	●	●
Members-only events	●	●	●	●	●	●
FREE admission to Partner Museums	●	●	●	●	●	●
Aerospace Camp Experience Discount		●	●	●	●	●
FREE admission to select museums and institutions participating in the Association of Science-Technology Centers (ASTC) Passport Program			●	●	●	●
One-time-use guest passes for family and friends			4 passes	8 passes	12 passes	16 passes
Special event invitations, including Seafair Party (Coming in 2019: "Go For Lunch" programs)				●	●	●
Barnstormer Lounge rental discount					●	●
Listing in the Museum's Annual Report						●

New Prices go into effect October 1, 2018. Benefits are subject to change. Please treat your guest passes like cash as they are not replaceable.

NEW! Senior Discount - 10% OFF Navigator and Aviator levels for ages 65+
Call our office at 206.764.5711 to receive this special offer!

*Senior discount cannot be combined with other offers.

For more information on Museum Memberships and a calendar of upcoming Members-only events, visit museumofflight.org/membership. To learn more about the ASTC Passport Program, visit www.astc.org/passport.

MUSEUM NEWS

Digitizing the Stories Behind the Vietnam War

BY: KAREN BEAN, DIGITIZATION SPECIALIST

THE VIETNAM WAR was one of the most controversial conflicts of the twentieth century, but behind that controversy stand the personal stories of soldiers who served. This fall, our archives team aims to tell these stories by launching five digital collections—the James H. Platt Vietnam War Collection; the Roy T. Church Vietnam War Photograph Collection; the Bruce Mennella Vietnam War Collection; the Robert Withrow Vietnam War Collection; and, the Calvin and Yun Yau Kam Papers—that document a soldier's experiences of the Vietnam War.

Most of these collections were donated within the last year by docents and volunteers. James H. Platt served in Vietnam from 1967-1968 with the U.S. Air Force rescuing downed pilots in Laos and Thailand. Roy T. Church, a U.S. Marine pilot, flew a total of 198 nighttime bombing missions in North Vietnam, South Vietnam, and Laos. Bruce Mennella served as an Air Intelligence Officer, completing two tours of duty in Vietnam and Laos with the Naval Fighter Squadron (VF-114) nicknamed "Aardvark Squadron." Robert Withrow served as a U. S. Navy Fireman (E-3) aboard the *USS Kitty Hawk* from 1965-1967. Calvin Kam, pilot in the U.S. Army 240th Assault Helicopter Company,



THE ROY T. CHURCH VIETNAM WAR COLLECTION/ THE MUSEUM OF FLIGHT

flew missions in Vietnam from 1970-1971.

Reference Archivist Jenn Parent, arranged the collections and created finding aids for each of them to allow staff, researchers, and the public to search the contents. The collections include photographic prints and color slides as well as documents like clippings, military records, and maps. I assessed each item, which were all in good condition, to determine the best method of digitization. All items were digitized using a flatbed scanner with a transparency adaptor. The collections will be available later this year on our digital repository mof.omeka.net, but they are currently accessible by appointment in the reading room. The archives team hopes that small projects like this will shed light on to these otherwise hidden collections.

JOIN THE MUSEUM'S LEGACY CHALLENGE FOR FUTURE GENERATIONS

If you have included the Museum in your will or other long-term plans, our Legacy Challenge Fund will donate \$5,000 to the Museum as a matching gift in your honor.

Your planned gift may not be realized for years to come, but you can make a big impact today. Tell us about your intention and immediately direct the Legacy Challenge matching funds to support your favorite area of the Museum.

ACT NOW! – Matching funds are limited for new or increased gift notifications. Call 206-768-7199 or email sdolese@museumofflight.org to find out more.

Taking a Virtual Flight with VATSIM

BY: SEAN MOBLEY, DOCENT SERVICES SPECIALIST



LISTEN INTENTLY TO THE CHATTER

on the air traffic control channel as I watch the summer sun set over Mt. Hood from my vantage point in the plane.

“Horizon 1604 on departure flight heading 340,” comes the voice from the tower, giving my pilot final instructions, “...28 left, clear for takeoff?”

“28 left, cleared for takeoff on departure heading 340 Horizon 1604,” replies my pilot, Matt Woerly, with the cadence of a well-practiced professional. A truck trundles down the airport service road in front of us. The air from the cockpit vent cools my face.

Our Bombardier DHC-8-Q400 in full Alaska Airlines livery taxis to the 28 left runway at Portland International Airport, PDX in plane parlance. As the tower turns its attention to other aviators, Woerly deftly throttles up the engines and a few minutes later Portland sinks below us. A slight haze stretches through the pink evening sky between the two mountains that dominate the birds-eye view out of Portland.

Except the view is virtual.

The mountains, airplanes and trucks are pixels on Woerly’s computer screen in his apartment in South King County, where I sit in a squeaky chair (with plenty of legroom) next to him. The cool air in the room comes not from a vent, but from the open window nearby. The voice of the PDX Tower, now wishing us a safe flight to Seattle, is a real person many miles away sitting at his own computer screen tracking Woerly’s virtual plane, along with other ‘planes’ in the PDX airspace, guiding the pilots to and from the airport as part of an elaborate aviation simulation called VATSIM.

The Virtual Air Traffic Simulation Network (VATSIM) is a dream come true for anyone who has ever wanted to be a pilot or get a feel for life in an air traffic control tower. The free software plugs in to popular flight simulators like X-Plane or Microsoft Flight Simulator X and connects pilots to each other and to VATSIM’s army of air traffic controllers.

“We have four radar clients for the ATC side,” explains Matt Bartels, who volunteers for the VATSIM Board of Governors. “That’s how the controllers can see the pilots. These are very close emulations of the real ATC scopes they are using at the approaches and the centers in the US.” Indeed, to the casual observer the software used by VATSIM’s controllers looks like it would be right at home at the Museum’s tower exhibit.

It may seem intimidating to the uninitiated, but the VATSIM community emphasizes the low barriers to entry. “[For pilots] there’s no training required, you can sign up and log on and do whatever you want,” says Woerly.

Bartels agrees. “We try to cater to everybody. We want to be a network where people can come on and learn how to interact with air traffic control, learn how to fly an airplane, have fun doing it, and at the same time get a realistic simulation of the policies and procedures used by real world air traffic controllers and pilots.”

It’s also possible for gamers to get a more intensive experience. Virtual airlines have formed, mirroring their real-life counterparts, complete with check rides, scheduled routes, and virtual in-flight magazines. An add-on to VATSIM can put you into an elaborate economy. Woerly, is worth over \$10,000,000 in

the VATSIM world. There are no screen names; all participants in VATSIM must use their full real names to promote professional behavior.

Back on the flight deck of Horizon 1604, our flight passes in real time. We soar over the Kent Valley, the route based on FAA charts Woerly has open on a second screen. He makes a northern approach so we can look down and wave at the virtual Museum of Flight and sets us down gently at SeaTac.

A few surgical keystrokes later, he has shut down the flight simulator and opened up the ATC client, a tangle of multicolored lines against a black background that would be familiar to FAA staff sitting in the Seattle Air Route Traffic Control Center, and within seconds he is running SeaTac’s airspace. He initiates contact with a pilot logged in from Seoul, South Korea flying past Mount Rainier about to complete a 13-hour flight plan from Rio de Janeiro’s Galeão International Airport to Seattle. “This guy’s been online the whole time,” says Woerly, “you can be away for a short time but you’re not really supposed to leave the plane unattended.”

He toggles his microphone, “Asiana 2807 heavy Seattle approach, ident [identify].” His voice is heard in Seoul where the pilot flashes their aircraft’s transponder from their own keyboard (following FAA protocol) which makes the aircraft target on Woerly’s radar blink. Woerly begins managing Asiana 2807’s approach.

Just another day at the airport.

Model Citizens

The NorthWest Scale Modelers

BY: TIM NELSON, VOLUNTEER

ON SEPT. 7, A NEW SCALE MODEL display will debut in the Museum lobby adjacent to the Wings Café. The members of NorthWest Scale Modelers (NWSM) are installing a collection of 30 highly detailed World War I aircraft models, one hundred years after the conflict ended. Eleven modelers have created these miniature replicas, representing more than 1,500 hours of skilled labor. The models will tell the story of the first air war and the pilots who experienced it.

The new display is the latest in a long line of collaborations between NWSM and The Museum of Flight—two organizations that have shared a symbiotic relationship since 1992. Although the Museum’s collection of aircraft and spacecraft is spectacular, it is not practical to acquire or display every significant artifact. Some of the important stories of flight can only be told in miniature. With this in mind, NWSM has partnered with the Museum to create exhibits, host spectacular shows, and stage recurring lobby displays.

Over the years, NWSM has created models in support of numerous major Museum exhibits. These efforts included the J. Elroy McCaw Personal Courage Wing subjects acquired from the Champlin Collection in 2002-2004, the U.S. Navy centennial in 2011, the Boeing centennial in 2016, and the new *Vietnam Divided* exhibit. NWSM also hosts one of the largest scale model exhibitions in North America over Presidents Day Weekend each February, featuring approximately two thousand models, seminars, working demonstrations, and a Make and Take program for kids.

Beginning in 2006, NWSM introduced a series of themed model displays in the Museum lobby. Permanent display cases were soon installed to showcase these miniature exhibits. In coordination with Museum exhibits and curatorial staff, the subject themes are selected far in advance to allow for building time—it can take many months of effort to craft a finished model. For each display, NWSM collaborates with exhibits professionals to prepare placards and graphics.

In June 2018, NWSM unveiled its 50th lobby display, saluting Canadian Aviation. The new World War I display will remain on exhibit through the Armistice centennial on Nov. 11, yielding in December to a fun and light-hearted look at aircraft in film. NWSM and the Museum will soon be finalizing a set of display themes for 2021 and beyond.

Do you have a great idea for a model display? Any practical suggestion can be submitted to NWSM member and Museum volunteer Tim Nelson, tnelson@museumofflight.org for NWSM consideration. (Practicality is important—a display of Civil War observation balloon models would be fascinating, but just isn’t very feasible.)



Interested in scale modeling? The friendly modelers of NWSM meet each Free First Thursday evening at 7 p.m. in the Red Barn. Membership is informal and there are no dues—come join the fun!



VOLUNTER PROFILE

PAUL WEAVER

BY: STEVE DENNIS, VOLUNTEER

IN THE EARLY 1950’S, Paul Weaver, a Boeing employee, was involved with the Pacific Northwest Aviation Historical Foundation, the predecessor to The Museum of Flight. Now, 68 years later at age 96, he’s once again participating in preserving the history of flight by offering his extensive insights to visitors in the J. Elroy McCaw Personal Courage Wing. Having served as a plane captain on the “new” aircraft carrier *USS Lexington* during WWII, and with 30 years in the Naval Reserve, Paul has a wealth of stories to tell!

An Ohio native, Paul remembers his first flight in a Piper PA-18 Super Cub. Inspired by prospects in aviation, he enrolled in an aircraft radio and electrical maintenance course offered at nearby Wright Patterson Field and in a radioman course offered by the Merchant Marine Academy. Following Pearl Harbor, he joined the Navy, hoping to use his new skills. Frustrated by a lack of orders after boot camp, Paul claimed he was an aircraft mechanic and pulled an assignment on a newly completed carrier: the CV 16, also known as the *USS Lexington*. He must have been a fast learner because when it was finally commissioned, February 1943, he was aboard as a plane captain for a Douglas SBD Scout.

After his service aboard the *USS Lexington*, he joined Boeing and worked on many programs including the Stratocruiser, the B-50, the B-52 and his favorite, the Dash-80, the prototype that became the iconic Boeing 707. As part of a team that flew Dash-80 on nationwide promotional tours, Paul had amazing experiences that added to his repertoire of stories. He met and got an autograph from Eddie Rickenbacker, World War I ace and executive at Eastern Airlines. Paul was hosted by TWA owner Howard Hughes during a sales visit to Los Angeles; and, he was given several opportunities to actually fly the Dash-80 during long overland trips.

While working on big planes for Boeing, Paul still found time to work on small ones for himself. He took great pleasure in buying “fixer uppers,” refurbishing and then selling them. A Taylorcraft, a Piper Cub, a Stinson Voyager and a Cessna 170 were all given new lives by Paul. And despite a full schedule he still found time to obtain his commercial pilot license and gain FAA certification to do plane repair. If aviation history were a smorgasbord, Paul Weaver would have tasted nearly every dish. Big planes, small planes; flown planes, built and rebuilt planes; landed on carriers and on land. Along the way he’s met some of the most interesting people in the industry. Now, another chapter in his life is unfolding as he makes his experiences and stories available to visitors.

The iridescent glory of the Nearby Planetary Nebula shows a fine web of filamentary "bicycle-spoke" features embedded in the colorful red and blue gas ring, which is one of the nearest planetary nebulae to Earth.

HUBBLE PHOTOS

WHERE SCIENCE MEETS ART

BY: SEAN MOBLEY, DOCENT SERVICES SPECIALIST
PHOTOS COURTESY OF NASA

T HIS IS REAL,"

promises LeVar Burton, narrator of *In Saturn's Rings*, the new film shown several times each day at the Museum in the William M. Allen Theater.

Burton invites viewers to explore the Solar System, adding commentary to the panoply of over 7.5 million photos captured by the Hubble Space Telescope, the Apollo missions, the Cassini-Huygens probe, and many more. The film promotes itself as 'science meets art' and filmmaker Stephen van Vuuren emphasizes the film's realism.

As the title of the film suggests, the focus is on the Cassini-Huygens Mission to Saturn and the film dazzles with breathtaking photos of the planet and its orbital cousins. Some of the most evocative images in the film are not of Saturn, but of nebulae captured by the Hubble Space Telescope in the far reaches of our galaxy. Because images like the pillars of flaxen yellow thrusting dramatically across indigo seas, punctuated by the flares of distant stars in the Carina Nebula, or the famous dark outline of the Horsehead Nebula against rose-tinted clouds evoke such wonder, it is easy to see why the Hubble's photos remain synonymous with space.

So ubiquitous are these photos that almost any space-based movie or video game will feature them at the forefront. Exploration games like EVE Online or Stellaris allow players to wander galaxies and use images based on Hubble's photos as their background. *In Saturn's Rings* uses nebula images

to bring viewers into the stellar womb, illustrating how stars are created.

But are these images, as Burton says the film, "real?" The answer is complicated.

The film prides itself, rightfully so, on its authenticity: none of the pictures used are doctored or computer created. Each of its 7.5 million photos is real and (for the most part) match exactly what you would see if you were to point a telescope into space. But nebulae are a bit more complex.

The first thing to remember about any picture the Hubble takes is that, however inspiring the photograph may be to the general public, it is first and foremost a scientific tool. Anyone in the world can request time to use the Hubble to capture an image, and those coveted few spots available go to those who meet scientific standards. The fact that we, the eager public, get to see what the Hubble sees is a happy byproduct of the program.

When a scientist captures an image with the Hubble, they are trying to answer a specific research question. Images of nebulae can be a great tool to learn about the formation of stars, as illustrated by *In Saturn's Rings*; expanding swirls of gas can collapse into a new star, or extremely dense and cold nebulae can cause gaseous molecules to bind together to birth a new twinkle in the night sky. To get a better idea of what is happening in a nebula, scientists can use different filters on the raw image to highlight various phenomena. They might assign colors to different elements or types of radiation so they can more clearly discern between them to answer their research question. The result of these scientific efforts is the staggeringly beautiful images found in every space lover's dream. This explains how even the most famous nebula might look completely

different from one picture to another.

So are these images "real?"

If you pointed your home telescope toward the Helix Nebula, you probably would not see the "Eye of God" staring back at you. But there is no doubt that the images the Hubble produces are indeed very real. The coloration may not be identical to what your own retina perceives, but the picture you snap with your phone's camera sensors is also not identical to what your own retina perceives. The Hubble takes what we cannot see, or what we can barely see, and translates it into a language that our eyes understand. These images transcend the notion of 'science meets art' to the point that science and art become one.

In Saturn's Rings plays daily.
Tickets: \$3; Members: \$2.

The Carina Nebula: Star Birth in the Extreme is a 50-light-year-wide view of the central region of the Carina Nebula where a maelstrom of star birth—and death—is taking place.

The iconic Horsehead Nebula has graced astronomy books ever since its discovery more than a century ago in 1888 by Scottish astronomer Williamina Fleming. The nebula is a favorite target for amateur and professional astronomers alike.



THE HUBBLE SPACE TELESCOPE HOVERS AT THE BOUNDARY OF EARTH AND SPACE IN THIS PICTURE, TAKEN AFTER HUBBLE'S SECOND SERVICING MISSION IN 1997./NASA

CAPTURING

the Spirit of Flight

BY: ALLEN EDWARDS, SPIRIT OF FLIGHT SUPERVISOR



SECOND PLACE WINNER, "LIGHTER THAN AIR." /NATALIE GILLIS

THE SPIRIT OF FLIGHT 2018 JURIED PHOTO exhibition opened June 16th in the T.A. Wilson Great Gallery. Photographers spanning the globe captured images depicting diverse and personal interpretations of the “spirit of flight.” This year’s competition received over 150 submissions, with jurors rating 35 images for gallery display. Winning photographers are awarded Museum memberships, a custom trophy, and are recognized at the opening reception. Thank you to all participating photographers!

FIRST PLACE DAWN OF THE GOLDEN AGE OF FLIGHT

BY: RICK GAUTHREAU

Rick Gauthreaux’s photography intersects the iconic with the ephemeral. The California-based photographer’s attentiveness in rapidly changing light conditions paid off in “Dawn of the Golden Age of Flight.” Polished aluminum, design elegance, and illumination intermingle as a Douglas C-41 bathes in the first rays of sunshine to break through a dismal morning sky.



FIRST PLACE WINNER AND COVER PHOTO, "DAWN OF THE GOLDEN AGE OF FLIGHT." /RICK GAUTHREAU

SECOND PLACE LIGHTER THAN AIR

BY: NATALIE GILLIS

Inspired by a passion for exploration and nature’s stark beauty, Natalie Gillis turns her lens on disparate and remote regions of the far north. In “Lighter Than Air,” the Canadian photographer presents a unique perspective from her hot air balloon explorations above the Arctic environment.



THIRD PLACE WINNER, "TRAFFIC IN THE PATTERN." /MARCIA M. MUELLER

THIRD PLACE TRAFFIC IN THE PATTERN

BY: MARCIA M. MUELLER

A dramatic scene unfolds as a topography of snow geese take wing in Washington State’s Skagit Valley. Marcia M. Mueller’s work captures rhythms in nature, while provoking the viewer to consider what external force (an off-camera bald eagle) spurred the flock from their roost.

The 2018 Spirit of Flight Photography Exhibition is on display now and runs through Sept. 16.

CALENDAR OF EVENTS

September



SEATTLE FLYDOGS

SPECIAL EVENT

Fly Dog, Fly!

Seattle FlyDogs returns for three high flying performances! Dogs of all breeds catch air in these exciting displays of caped canine athletics. In between shows, enjoy a meet and greet with the furry athletes and their trainers. **Please note that Seattle FlyDogs are invited guests of the Museum. Only service animals are allowed in the Museum of Flight. Please do not bring animals to the program.*

AVIATION PAVILION

Saturday, Sept. 29 | 2 to 4 p.m.



LECTURE

Heavy Tea, Black Bats and the CIA

In 1969, CIA pilots of the Taiwan-based “Black Bat Squadron” flew a daring nighttime mission to deploy secret surveillance equipment near a Chinese nuclear weapons base. Join us for a discussion with aviation experts about this clandestine operation, known as Heavy Tea, to learn more about its planning and execution.

WILLIAM M. ALLEN THEATER

Saturday, Sept. 1 | 2 to 3:45 p.m.



LECTURE

Alaska Over Israel

Author Darragh Metzger discusses her new book “Alaska Over Israel,” which examines how, in 1948, Alaska Airlines helped rescue Jewish refugees from around the world and deliver them to the newly reborn nation of Israel. Metzger will provide a presentation, reading, Q&A, and book signing.

WILLIAM M. ALLEN THEATER

Saturday, Sept. 8 | 2 to 3:30 p.m.



WELLS FARGO

FAMILY EVENT

Wells Fargo Free First Thursday

On the first Thursday of each month, the Museum stays open late—and admission is FREE. Enjoy the Museum’s T.A. Wilson Great Gallery, J. Elory McCaw Personal Courage Wing, Charles Simonyi Simonyi Space Gallery, Aviation Pavilion and more from 5 to 9 p.m., courtesy of Wells Fargo. The Museum Store and Wings Café will also remain open for extended hours.

MUSEUM-WIDE

Thursday, Sept. 6 | 5 to 9 p.m.

WEEKEND FAMILY WORKSHOPS

Spy in the Skies

Can you keep a secret? You don’t need Top Secret Clearance to come to this program... but it would help! Learn about the SR-71 and M/D-21, known as the Blackbird—the most amazing spy plane to ever take to the skies. Then make your own Blackbird model.

T.A. WILSON GREAT GALLERY

Saturday and Sunday, Sept. 1-2, 8-9, 15-16, 22-23, and 29-30

11 to 11:45 a.m. and 1 to 1:45 p.m.

Explore the exciting world of flight in fun hands-on workshops. Open to all ages and free with admission. Groups with 10 or more children, please call ahead to make sure we can accommodate your group. Contact: Interpretive Programs Coordinator at 206.768.7187.

Thank you to our community partners:



October



SPECIAL EVENT

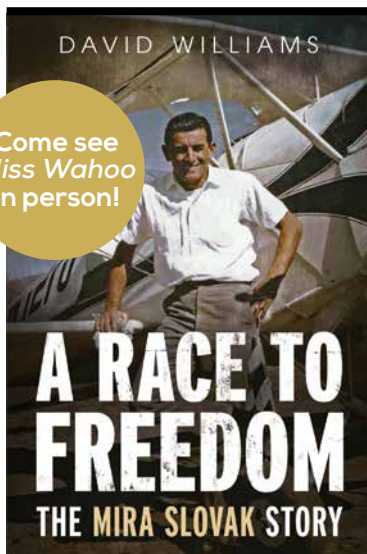
Celebrating NASA's 60th Anniversary

On October 1, NASA marks its 60th anniversary of becoming a U.S. Government agency. Bill Barry, NASA's Chief Historian, talks about the history and achievements of NASA and what it hopes to accomplish in the future.

CHARLES SIMONYI SPACE GALLERY
Saturday, Oct. 6 | 2 to 3 p.m.



WEEKLY AEROSPACE UPDATE Get the latest news in astronomy, aviation and spaceflight from our own experts. Q&A follows. **Every Saturday at 1 p.m. in Sept. & Oct.** in the Charles Simonyi Space Gallery.



Come see Miss Wahoo in person!

LECTURE

A Race to Freedom: The Mira Slovak Story

David Williams discusses his new book *A Race To Freedom: The Mira Slovak Story*, which explores the fascinating story of the airline pilot who in 1953 fled Communist Czechoslovakia by hijacking his own commercial flight to West Germany. *Miss Wahoo*, the piston-powered race boat that Slovak raced in the 1950's, will be on display at the Museum.

WILLIAM M. ALLEN THEATER
Saturday, Oct. 13 | 2 to 3:30 p.m.



Meet creator of web comic "Saturday Morning Breakfast Cereal"

LECTURE

"Soonish"

Zach and Kelly Weinersmith, a top scientist and the creator of the web comic "Saturday Morning Breakfast Cereal," present their new book, a witty and entertaining illustrated investigation into future technologies. "Soonish: Ten Emerging Technologies" will be available for purchase in the Museum Store.

CHARLES SIMONYI SPACE GALLERY
Saturday, Oct. 20 | 2 to 3:30 p.m.



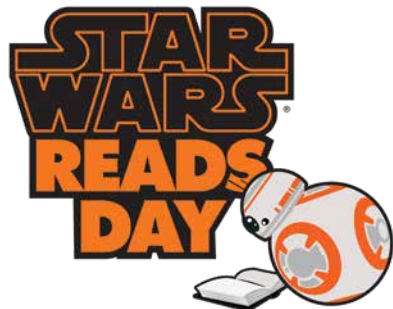
WELLS FARGO

FAMILY EVENT

Wells Fargo Free First Thursday

On the first Thursday of each month, the Museum stays open late—and admission is FREE. Enjoy the Museum's T.A. Wilson Great Gallery, J. Elroy McCaw Personal Courage Wing, Charles Simonyi Space Gallery, Aviation Pavilion and more from 5 to 9 p.m., courtesy of Wells Fargo. The Museum Store and Wings Café will also remain open for extended hours.

MUSEUM-WIDE
Thursday, Oct. 4 | 5 to 9 p.m.



FAMILY EVENT

Star Wars Reads Day

Wear your Jedi best as you enjoy arts and crafts, special programming and hear the winning stories from our *Empire Writes Back* Writing Contest. For details about entering the writing contest see page 25. The Museum joins over 2,000 organizations across North America participating in Star Wars Reads during the month of October.

MUSEUM-WIDE
Saturday, Oct. 13 | 10 a.m. to 2 p.m.

WEEKEND FAMILY WORKSHOPS

Amazing Astronauts

How do astronauts survive in space? Come find out at this month's workshop!

T.A. WILSON GREAT GALLERY
Saturday and Sunday,
Oct. 6-7, 14, 20-21, and 27
11 to 11:45 a.m. and 1 to 1:45 p.m.

Explore the exciting world of flight in fun hands-on workshops. Open to all ages and free with admission. Groups with 10 or more children, please call ahead to make sure we can accomodate your group. Contact: Interpretive Programs Coordinator at 206.768.7187.

Junior Aviators

Moon Jumble

Unscramble these five jumbles, one letter to a square to form five space words. Then arrange the seven circled letters to find the answer to the cartoon's riddle!

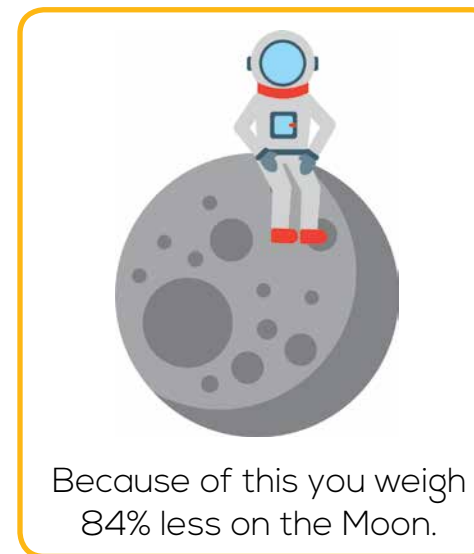
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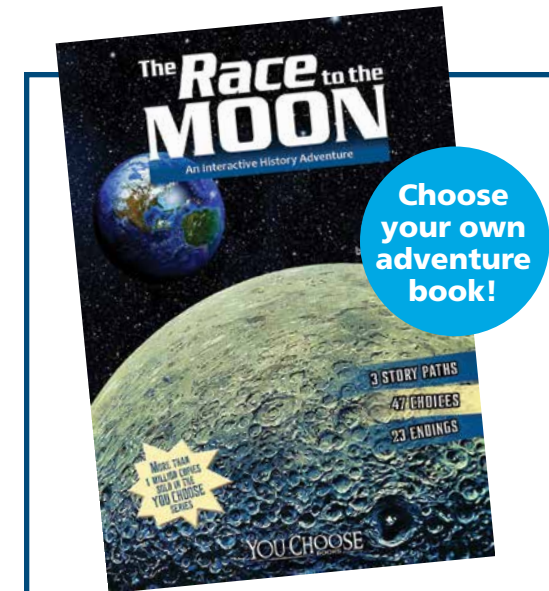
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Answers on page 25.



Choose your own adventure book!

BOOK RECOMMENDATION

You Choose: The Race to the Moon

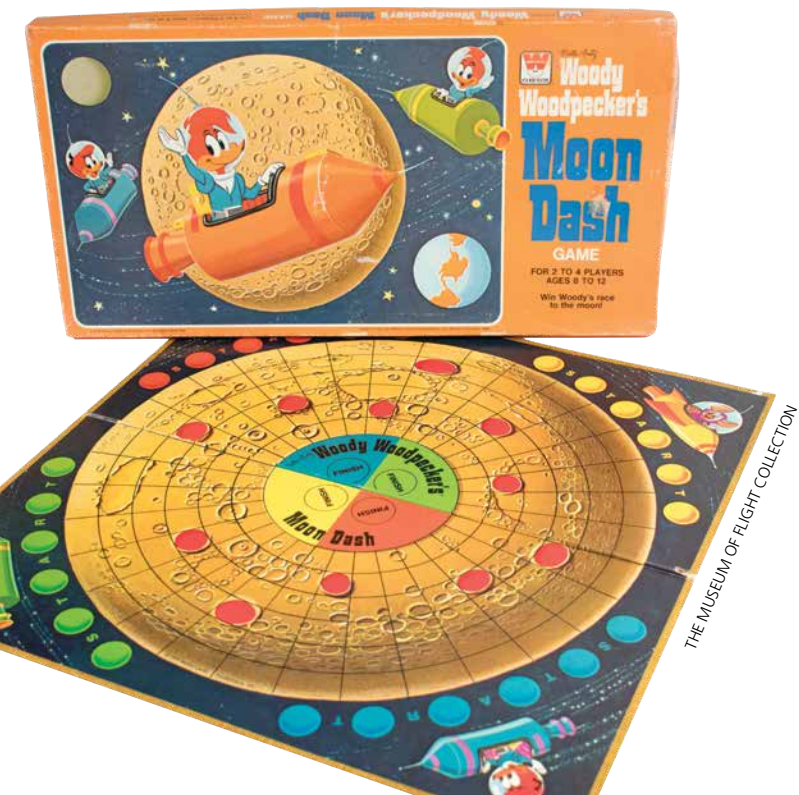
BY: ALLISON LASSIEUR

ARE YOU READY TO CHOOSE your own Moon adventure? Imagine yourself in the 1950s and '60s while the Soviet Union and the United States were racing to be the first to reach the Moon. You get to choose your role in the race: a young scientist working on early rocket technology; a reporter following space 'firsts'; or, a member of Mission Control during the Moon landing. Your adventure will change depending on what role you choose, but you can try them all as you re-read the book to learn more about what happened to real people during the race to the Moon. Available for purchase in the Museum Store.

TOY FROM THE COLLECTION

Woody Woodpecker's Moon Dash Game, 1976

RACE TO THE CENTER OF THE MOON with Woody Woodpecker and his friends! In the board game Moon Dash, you use a spinner to move your character across the board while out-maneuvering other Moon explorers. You can evade your fellow players by hiding in craters as you try to be the first one to get all six of your tokens to the center of the Moon. Moon Dash came out in 1976, when NASA introduced its first space shuttle, *The Enterprise*, and when you could watch episode after episode of Woody Woodpecker on TV! With its combination of space exploration and cartoon characters, Moon Dash is one of many space-themed board games that we have in our Collection. Woody Woodpecker was created by Walter Lantz in 1940 and Moon Dash is from his personal collection. The board game was donated to the Museum in 2017 by Jake Shultz.



THE MUSEUM OF FLIGHT COLLECTION



Boeing, Bots, and the Future of Artificial Intelligence in Aviation

BY: IRENE JAGLA, CONTENT MARKETING MANAGER

We've all grown familiar with horror stories about technological mishaps involving personal assistant bots, like Alexa and Siri, and self-driving cars. Earlier this year, a woman in Tempe, Ariz. was killed by a self-driving Uber SUV—a vehicle programmed by deep learning algorithms that constitute artificial intelligence (AI) technology. The company immediately suspended testing until improvements could be made.

While self-driving cars still have a long way to go, AI is not disappearing any time soon, and major players in the aviation industry, like Boeing, are investing in technologies that may get us closer to personal forms of air transport, self-flying airplanes and pilotless aircraft. This third option is an attractive investment for airlines. Humans are, after all, fallible and expensive. We have pesky needs like having to eat, sleep, and see our families. Pilotless aircraft could eliminate all these inefficiencies, and Boeing is starting to explore how to make it possible.

In 2015, Boeing took a major step towards embracing AI and machine learning by partnering with Carnegie Mellon University's Language Institute to research possibilities for machine learning, language technologies and data analytics in aviation. When the Washington Post announced the partnership, it quoted Aerospace Data Analytics Lab Director Jaime Carbonell's outline for an audacious plan for "self-healing airplanes" that would forever transform the aviation industry.

In addition to harnessing data analytics for healthier planes, Boeing's sponsorship of the GoFly Prize, a \$2 million award given to innovative ideas in personal flight, underlines its interest in alternative forms of flight. The Phase I GoFly Prize winners were announced on June 14 and included 10 VTOL designs with appearances that range from glorified lawnmowers to self-propelling oval-shaped pods that would look right at home in an episode of the *The Jetsons*. A timeline on the GoFly Prize website identifies milestones of human flight, like the Flying Pulpit, the Gossamer Condor, and Hiller's Flying Platform—all machines with room for one flyer that manifest the dream of "pure human flight." Boeing President and CEO Dennis Muilenburg confirmed the company's interest in alternative forms of human flight by announcing in March that air taxis may take to the skies sooner than we anticipate.

Another critical move by Boeing is its acquisition of Aurora Flight Sciences, which aims to "disrupt the future of aerospace mobility" with autonomous technologies for aircraft systems. Other companies similar to Aurora Flight Sciences, like Spark Cognition, are making headway in the aviation industry with machine learning solutions that, according to its website, can cut maintenance costs and improve asset liability for major aviation operators by 35%.

Most notable in Boeing's path towards autonomous aviation, is its sponsorship of

“Pilotless aircraft could eliminate all these inefficiencies, and Boeing is starting to explore how to make it possible.”

the fifth annual Machine Learning and Data Analytics Symposium in Qatar this past March. The symposium brought together researchers and experts across academia and industry to discuss applied AI research and critical issues in machine learning. Seema Chopra and Ramsis Adam, both of Boeing, delivered presentations illustrating the impacts of machine learning algorithms on human interaction and best practices for applying AI research, respectively.

Based on these inroads over the past few years, we can surmise that Boeing is indeed invested in exploring AI in aviation, but only to a certain degree. Can we indeed anticipate a robot flying us from Seattle to Los Angeles any time soon? Not so fast, says Alan Boyle, aerospace industry expert and editor at GeekWire, who offered his insights on Boeing's involvements with machine learning and AI.

Before we can even begin to speculate about pilotless planes, urges Boyle, we need to consider how machine learning can impact other spaces within the aviation industry, like production and maintenance. Boeing's investments indicate its interest in cost-saving machine learning and data analysis technologies that can improve how and when planes get maintained. "There is

so much data available now in the aviation space, so the idea is that you'd be able to predict maintenance schedules, or when a component is going to fail, so you can take care of those issues before they actually occur," says Boyle. You know how sometimes you're sitting on a plane, waiting to take off, and you hear an announcement about a maintenance-related delay? Data analytics and machine learning could prevent these nuisances from happening in the first place, making for happier passengers and less money wasted on lost flying hours.

All of these benefits sound great, but what about the people tasked with performing maintenance checks now? They won't be completely left out of the loop, says Boyle. "Boeing has voiced its commitment to augmenting, not replacing, humans in aircraft manufacturing and maintenance." But, future mechanics will have to look forward to collaborating with machine co-workers. This could mean that companies like Spark Cognition, with its machine learning technologies, will play a much bigger role in the aviation industry.

Taking a step further from issues of predictive maintenance, we might ponder the notion of self-flying planes. Google first began testing self-driving cars in 2009,



“The last fighter pilot has already been born.”

but we also know that the auto industry's progress towards self-driving cars has been slow and rife with embarrassment, which means that self-flying planes are not a huge concern—yet. Mike Sinnett, vice president of product development at Boeing, observes that the automotive industry is not as highly regulated as aviation. There are an estimated 40,000 automobile-related deaths in the U.S. annually, but only one death due to commercial airline accidents since 2009. In a GeekWire article from last summer, Boyle quotes Sinnett as saying that when it comes to self-driving vehicles, the standards are different between the auto and aviation industries: "They've got to be better than 40,000 and we've got to be better than zero."

One comment that I've heard from some aviation enthusiasts is that "the last fighter pilot has already been born." Given the current state of self-driving cars, and the step-by-step progress of Boeing tip-toeing into the world of AI and machine learning, we may still have another generation or two of fighter pilots who can share their stories with the Museum before we have to make room in our galleries for displays on machine learning and robot pilots.



MUSEUM NEWS

Spooktacular Fun

JOIN US AS THE MUSEUM OF FLIGHT TRANSFORMS into The Museum of Fright! Across all galleries, you'll find Halloween carnival-style games and activities to spark imagination, innovation, and get in the Halloween spirit. Design and build soaring, swooping, and spooky fliers below a high-flying glider, visit Frankenstein's Lab in our Aviation Learning Center, hop through an obstacle course under the Blackbird, and encounter other frightful surprises! *Sponsored by the City of Tukwila.*

Sunday, Oct. 28 | 10 a.m. to 3 p.m.

Kids 18 and under IN costume: FREE
Kids 18 and under without costume: \$5
Adult Chaperones: \$10



Radio Controlled Model Aviation Exhibit

The Lake Sawyer Hawks Radio Control Club brings the world of flying models to the Museum! Interact with models of all sizes and descriptions created by modelers from clubs throughout the Pacific Northwest. Designs range from indoor flyers to high speed competition aircraft, including simple trainers, sport models, and jets. Club members will be on hand to answer questions.

FREE with admission.

SIDE GALLERY
Sunday, Nov. 18 | 10 a.m. to 5 p.m.



Smithsonian magazine
museum day
September 22, 2018

The Museum Day ticket provides free admission for (2) two adults, youth or seniors to participating museums and cultural institutions across the country.

To download your ticket, visit: smithsonianmag.com/MuseumDay

Listen to Fighter Pilot Stories

BY: AMY HEIDRICK, DIRECTOR OF COLLECTIONS

HAVE YOU EVER WONDERED what it was like to be a fighter pilot in WWI, WWII, the Korean War, or Vietnam? Now you can listen to personal stories from fighter pilots themselves when you access our Digital Collections. Over the past 18 months, the Museum has been engaged in an exciting project to digitize rare and unique oral interviews in the American Fighter Aces Association (AFAA) Collection. Generously funded by the Council on Library and Information Resources and private donors, the project involved digitizing approximately 243 fragile media items, including audio reels and cassettes. Some of the digitization work was done in-house by our Digital Assets Coordinator, Ali Lane, and the rest was done by the Northeast Document Conservation Center in Andover, Mass. The collection contains interviews with over 120 individual fighter aces from conflicts ranging from WWI through Vietnam and has over 120 hours of audio content. In the past few months, the project has focused on the time-consuming process of transcribing all of the digitized audio content and preparing the final transcripts to be made available with the audio content. On July 31, the first group of 40 oral interviews was made available online through the Museum's Digital Collections at mof.omeka.net. The digital content available includes biographical information and an image of each Ace featured in the interview, the full audio for each interview, the transcript in PDF format, and a detailed listing of the people, military units, geographical areas, aircraft, and other general subjects mentioned in the interview. The remaining oral interviews and transcripts will be added to the site and made available for all as each transcript is finalized over the coming months.

SPACE FEST 2018

SPACE ART & TECH

SAVE THE DATE

MEET SPACE EXPERTS

EXPERIENCE VIRTUAL REALITY

MIX AND MINGLE AT EVENING RECEPTIONS

SATURDAY & SUNDAY
NOVEMBER 2-3

MUSEUM NEWS

It's in the Book

FOR FUTURE GENERATIONS, by former Executive Director Howard Lovering, is full of detailed stories about how the Museum came to be, including the one about our very own Red Barn. In 1970, when the Red Barn was slated to be destroyed, the Pacific Northwest Aviation Historical Foundation nominated it for the National Historical Register in order to honor it and buy time for its acquisition and relocation.

Receiving national recognition, the Red Barn was transported by barge and truck to Boeing Field in 1975. Its relocation triggered state and federal calls for de-registration, so Museum leadership appealed that the move was necessary to save the historic structure and place it on the site of the first flight in King County. The registration held, serving to clarify moving allowances in the regulations. The Red Barn, daily full of visitors who experience its aerospace story, continues to make history.

This piece of behind-the-scenes Museum history—and many more!—is available exclusively in *For Future Generations*, available now in our store and online at museumofflightstore.org.



THE MUSEUM OF FLIGHT



Empire Writes Back!

Writing Contest

CALLING ALL PADAWANS! In honor of Star Wars Reads Day, the Museum will once again host the *Empire Writes Back!* writing contest. You tell us: In a galaxy far, far away did Darth Vader love chocolate chip cookies? Did Luke Skywalker not become a Jedi knight? Use your imagination and create your own fantasy. Stories must be the original work of the student. All students in grades 2-8 are invited to enter. Entries must be submitted by Oct. 1, 11:59 p.m. PST. For entry form and contest rules, please visit museumofflight.org/star-wars-reads-day.

Submit your story by:
Monday, Oct. 1, 11:59 p.m.
Open to students grades 2nd-8th.

**Entrants must be present at the Museum during Star Wars Reads Day on Oct. 13 (page 18) to be eligible to win.*

Answers to the Moon Jumble on page 19.

LANDER • OXYGEN • ROVER • ENGINE • ASTRONAUT
RIDDLE ANSWER: GRAVITY

NEWSPACE CONFERENCE IS HERE TO STAY

BY GEOFF NUNN, ADJUNCT CURATOR FOR SPACE HISTORY

THE ANNUAL NEWSPACE CONFERENCE, hosted by the Space Frontier Foundation, returned to the Seattle area on June 26. The three day event took place at the new Hyatt Regency Lake Washington in Renton and focused on the expanding commercial and entrepreneurial uses of space. Local space companies like Blue Origin, Planetary Resources, and RBC Signals took the stage alongside industry representatives from across the country and around the world. The Museum of Flight was also present. I had the opportunity to lead a panel called Telling the NewSpace Story. Panelists Alan Boyle from GeekWire, Sarah Cruddas of the BBC, Boeing's Historian Mike Lombardi, and Erik Rau, Director of the Hagley Library, discussed the challenges of communicating NewSpace to the public and ensuring that these stories are preserved for future generations. The conference culminated with a major announcement that the Seattle area will now be the permanent home for NewSpace. Instead of traveling back and forth between Silicon Valley and the Northwest, the conference will return to stay in 2019.



SILVA FAMILY



SILVA FAMILY

In Memory of Steve Silva

BY DANA FLANEGIN, DONOR SYSTEMS COORDINATOR

Last year, the Museum received several tribute gifts in memory of Steve Silva, designated for the restoration of our B-52, which will become the centerpiece of the Museum's new Vietnam Veterans Memorial Park. The Silvas invited family and friends to make memorial gifts to the Museum's B-52 restoration because Steve was a B-52 pilot during the Vietnam War and had wanted to participate in the plane's restoration during his retirement. Unfortunately, due to health issues, Steve wasn't able to become a restoration volunteer, but through his family's decision, his memorial gifts have helped restore the plane to its former glory and provide a permanent legacy to honor Steve's life.

Last month, I was honored to meet Steve's widow Sheron, his daughter Shannon, his son-in-law Bill, and two of his grandchildren to learn more about Steve's life as a B-52 pilot.

In 1968, two days after graduating from Auburn University with a degree in Aviation Management, Steve and Sheron were married. Fully aware he would likely be drafted after completing college, Steve took entry exams from the USAF and USN before his marriage, hoping to be selected. The day after the Silva's

honeymoon, Steve accepted an offer from the USAF for Officer Training School (OTS) and Pilot Training. That afternoon, the USN called with an offer, but he had already made a commitment to the USAF. The next day, Steve received his official draft notice in the mail.

Steve immediately left for OTS and then Pilot Training at Webb Air Force Base, Texas. After initial B-52 training, he was assigned to the 744th Bomb Squadron at Beale Air Force Base, Calif. In 1972, Steve now an Aircraft Commander, and his crew were deployed to Andersen Air Force Base, Guam, to take part in Operation Bullet Shot (the codename for the buildup of B-52 bombers and support in Southeast Asia). In December of the same year, Steve and his crew also took part in Operation Linebacker II, an aerial bombing campaign that involved some of the heaviest strikes of the Vietnam War.

Knowing their correspondence was screened, the Silvas used the placement of the postage stamp on the envelope to convey secret messages to each other. In addition, the couple had a code word which Steve would use, if captured, to let Sheron know whether or not he was truly alright, despite what she might hear.

To this day, Sheron has never revealed that code to anyone.

When the United States' military involvement in the Vietnam War ended, Steve helped ferry planes from Guam to the U.S. and later served as an Instructor Pilot at Beale and Castle Air Force Bases. After ten years of service, he was honorably discharged in 1977, having received a multitude of USAF honors. Steve later worked as an airline pilot for PSA and US Airways for 26 years, flying Boeing B-727s, 737s, 757s, 767s, Bae-146s, MD-80s, and DC-9s. He retired from the airline in 2003 and worked as an Investigative Analyst for the FBI until he permanently retired in 2011.

Today, Steve's family proudly remembers his military service and his love of family. In addition, his 12-year-old granddaughter told me she fondly remembers his help with her math assignments, which has inspired her to pursue a career as a pilot, astronaut, or an aerospace engineer. Steve is survived by daughters Lauren and Shannon, four grandchildren, his sister Kathy and a large, extended family.

Tribute Gifts

In Memory

In memory of All B-52 crew members who did not return from the Vietnam War
John Hazlett

In memory of Robert E. Bateman
Millard T. and Martha Battles

In memory of Eileen I. Bear
Heinz Gehlhaar

In memory of Harold (Gordie) Gordon Blume, Jr.
Molly Blume

In memory of James E. Booth
Michael Canorro

In memory of Jonathan R. Burton
Terry and Marsha Mason

In memory of Gregory J. Crossman
Michael Canorro

In memory of Joseph E. Davies
Michael Canorro

In memory of Everett Elkins
James Oberlander

In memory of Gerald K.W. Eng
Kai Eng

In memory of C. Donald Filer
Darlene Kenney
Superior Underwriters

In memory of James D. Fish
Dorothy Fish

In memory of Georgia M. Franklin
Herbert L. Bone, Jr.

In memory of Milton G. Hagen
Mark G. Hagen and Kathleen M. Osgoodby

In memory of Donald V. Hanson
George and Myrna Eaton
Terry and Linda Mahaffey
Ooteau Farms
Madge Schumacher
William and Virginia Thompson

In memory of Sandra (Sandy) E. Higgins
John and Mary Jo Cashman
Charlotte Clay
Linda Del Monte
Des Moines Yacht Club
Dana Flanegin
Thomas Higgins
Howard and Janece Johnson
Marc Manzo
Susan McDonald
Wendy Moomaw
The Koons-Perdikis Family
John Purvis and Nancy Wright
Trip and Ann Switzer

In memory of V. Wayne Ingalls
Ardis Ingalls
Rex and Linda Maurer
John and Suzanne Sweek

In memory of Donald W. Johnson
Joan G. Johnson

In memory of Joslyn A. Warren
Tom Jensen

In memory of J.P. Judd
Gerrit Kuiken

In memory of Wallace Kraft
James Kraft and Delores Ledbetter-Kraft

In memory of Cheryl Lisowski
Jody Byrne
Dana Flanegin

In memory of Robert and Dorothy Lundeen
Virginia Lundeen

In memory of Edwin (Bud) Madarus
Anonymous

In memory of my friend Lou and all those who served in Vietnam
Timothy and Kimberly Searin

In memory of James E. Nelson
Patsy Nelson

In memory of Richard (Dick) H. Nelson
Bill and Linda Beagles

In memory of Sarah Parke
Charlie Nichols

In memory of James T. Pitts
Mark Pitts

In memory of George (Al) Poff
Denny and Mary Reynolds

In memory of John H. Pruatt
Richard Paynton

In memory of Gordon (Terry) Richardson
Verla J. Morrison

In memory of Walter H. Ruef
Sealaska Environmental Services

In memory of Robert M. Savage
Keith R. Shaw

In memory of Dorothy (Dottie) L. Simpson
Jon and Ann Bowman
David C. and Polly Wyman

In memory of Paul B. Smith
David and Jodi McCarthy

In memory of Charles L. Snelson
Lynne Keeley

In memory of Clark I. Snyder
Jeanne Wright

In memory of Straw 02 Aircrew
John Penney

In memory of Carleton L. Waugh
Charles Waugh

In memory of Michael W. Way
Joseph and Barbara Dalton
Victoria Haag
Miki Hoffman
Mary K. Way
Richard and Julie Weber

In memory of Juliana L. Wellman
Robert and Mary Beth Person

In Honor

In honor of 465th & 19th Bomb Wing OMS Robins AFB, GA
Robert McKenzie

In honor of all those involved with the Wind Tunnel
Richard Volin

In honor of David W. Cable and all those who served in Vietnam
Richard Hendrickson

In honor of Marilyn Chisholm
H. Eugene and Nikki McBrayer

In honor of Eugene J. Daspit
Kathy Daspit

In honor of Jim T. Farmer
Jeffrey Cordova

In honor of Don J. Ferrel
Matthew and Bridget Ferrel

In honor of Babs Harrison
Barbara and Wray Featherstone

In honor of Casmira Harrison
Gary and Susan Harrison

In honor of Wesley Kennard
Sheri Kennard

In honor of Douglas R. King
Charles Cleveland

In honor of The King Family
Peggy King

In honor of Barry C. Latter
Ida Culver House Ravenna

In honor of Peter M. Morton
William and Karen Leeds

In honor of Anne F. Simpson
Bill and Marilyn Conner

In honor of Carol Thomson
Dennis and Diane Hatfield

In honor of United State Air Force National Speakers Association

In honor of Vietnam POWs
Admiral Thomas B. Hayward USN (Ret)

In Memoriam

John M. Adsit
William R. Albrecht
Eric J. Baker
Alan L. Bean
Jack L. Becvar
Charles H. Baumann
Warren E. Beecroft
Daten O. Bourn
Gregory R. Canaday
Constance Carter

Donald H. Charles
Donald M. Christensen
Craig W. Cole
John J. Courage
Sharon I. Danley
Ernest E. Faulk
C. Donald Filer
Donna W. Foss
Alan R. Gale
Gary R. Gallaher

Nicholas A. Grossi
William L. Hettich
Robert D. Hines
Howard K. Hitch
Ellen K. Hitsman
V. Wayne Ingalls
Clark W. Kane
Nancy J. Languille
Cheryl A. Lisowski
Patricia M. Litaker

John A. Livingstone
Ella Mahoney
Karl W. Merz
Michael O. Michellich
Theodore D. Moors
Donald R. Morgan, Jr.
James C. Norman
Christopher J. Norton
Jeanne H. Oakes
Gary A. Parkinson

Adela E. Peterson
George A. Poff
Joseph C. Prior, Jr.
Walter H. Ruef
Robert M. Savage
Gordon J. Siddons
Raymond K. Signani
LeRoy J. Snyder
Robert L. Stiles, Sr.
Robert N. Studerus, Sr.

Carl E. Tipton
Ira Uhrig
James P. Wallace
Velmer A. Winn

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2018 A.M. FLIGHT BREAKFAST

Friday, October 19, 2018

7:30 to 9 A.M. | The Museum of Flight

Doors open at 7 A.M.

Join us under the Blackbird for an inspiring breakfast!

The Museum is committed to bringing diversity into the STEM field. You can be our partner in providing students opportunities to develop an interest in and understanding of STEM.

To RSVP & register, visit museumofflight.org/AMFlight

*The breakfast is free to attend, \$150 minimum contribution is encouraged.
100% of the proceeds supports education at The Museum of Flight.*

KEYNOTE SPEAKER:

CINDY HEALY

STEM Advocate & Director of Worldwide Learning at Microsoft



Alaska
AIRLINES

base₂
SOLUTIONS

BOEING