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

EXCLUSIVE!
MEMBER MOVIE NIGHT
The Rocketeer
The discovery of a top-secret jetpack hurlstest pilot Cliff Secord into a daring adventure of mystery, suspense and intrigue. Cliff encounters an assortment of ruthless villains, led by a Hollywood screen star who's a secret spy. With the help of his actress girlfriend, the young pilot battles enormous odds to defeat his foes, who are anxious to use the device in an evil plan to rule the world.

WILLIAM M. ALLEN THEATER
Friday, Jan. 24 | Movie starts at 6 p.m.
(Door at 5:30 p.m.)
RSVP to membership@museumofflight.org.

EXCLUSIVE!
Coffee with the Curator
See artifacts in the Museum Collection not normally on view!
Coffee and light snacks provided. Featuring Red Barn Blond coffee, available exclusively at the Museum Store.
RSVP to membership@museumofflight.org.

CURATOR’S CHOICE
Friday, Jan. 17 | Noon to 1 p.m.
VIEW LOUNGE (2ND FLOOR)
In case you haven’t heard yet, the Museum now has a curator on staff with your coffee! Please join us as our new Senior Curator Matthew Burchette shares a selection of objects and other materials in our collection that relate to a special surprise topic of his choosing.

A FEW OF OUR FAVORITE THINGS
Friday, Feb. 14 | Noon to 1 p.m.
VIEW LOUNGE (2ND FLOOR)
Join the Museum's curatorial team for a new edition of "A Few of Our Favorite Things" where each staff member will share some of their favorite items in the Museum’s vast collection. Come learn about some unique objects, interesting images, and hidden treasures.

EXCLUSIVE!
STEM Starters
MUSEUM MODELERS
Join us for a model plane building workshop! Each family will have the chance to step into the role of an aerospace engineer and build a model of a plane. Space is limited to 60 participants.
Saturday, Feb. 15 | 11 a.m. to 2 p.m.
SOUTH VIEW LOUNGE, 2ND FLOOR
FEE: $10/model
 Reserve your model online by Jan. 31 at museumofflight.org/MemberEvents

ALOFT STAFF:
Editor-in-Chief: Erika Callahan
Contributing Editors: Mary Batterson, Matthew Burchette, Megan Ellingwood, Louisa Gaylord, Reba Gilman, Amy Hedrick, Ted Huett, Robin Webster, Sarah Stranzer, Yvonne Svetlana
Art Direction & Design: Julie Wilbert
Columnists: Mary Batterson, Matthew Burchette, Natalie Copeland, Robert Dempster, Steve Dens, Megan Ellingwood, Daniel L. Heideman, PhD, Ted Huett, Charisa Michelson, Sean Mobby, Geoff Nann, Christine Ruste, Lynne Benchley
Web Producer: Lynne Benchley
On the cover: NASA astronaut Christina Koch takes an out-of-this-world “spacewalk” with the Earth behind her (NASA/CHRISTINA KOCH)
Questions or Comments? Email us at aloft@museumofflight.org

STEM Starters is a monthly program series geared to our youngest Members! Children ages 3 to 5 and their co-pilots (one adult per child) are invited to explore the wonders of aerospace during this fun, educational program.

PLANETARIUM
4 sessions available!
Participants will learn the basics of the night sky while enjoying One World, One Sky with Sesame Street characters in our portable planetarium followed by a simple constellation craft.

January 13 and February 10
Two sessions each day: 10:30 to 11:30 a.m. OR 3 to 4 p.m.
All sessions in the SIDE GALLERY
RSVP required. Space is limited. To attend, email us at membership@museumofflight.org.

Due to limited space, supplies, and developmentally appropriate curriculum, we are unable to accommodate additional children (such as younger siblings). Thank you for understanding.

EXCLUSIVE!
YOU ARE GO FOR LUNCH
Lecture Series
Soyeon Yi is an astronaut and biotechnologist who became the first Korean to fly in space. She is a fascinating and entertaining speaker who will delight you with stories from her unconventional education and career path.
Saturday, Feb. 8 | 11 a.m. to 2 p.m.
SKYLINE ROOM
Tickets: $45/person
Purchase online at museumofflight.org/MemberEvents

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CONTACT THE MUSEUM
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24-Hour Info Line: 206.764.5720

FREE MEMBER EVENTS
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Welcome.

It's a simple, positive statement. It translates well and once seen, typically makes the readers feel at ease. It's common to walk into a public institution and see the word posted in a dozen or two languages. I'm pretty sure that the only word I know in German and Italian is “welcome” as it was on pieces of construction paper on my elementary school wall.

Our Vision Statement is “To be the Foremost Educational Air and Space Museum in the World.” To fulfill this vision we need to be really good at what we do. Thankfully we are blessed with the best staff and volunteers who make this possible. But being the foremost means even more. It means taking stock of where we are, embracing all we do well, and building on this foundation. That includes ensuring we deliver relevant and meaningful experiences to the diverse audiences that we serve or should be serving. And this is something we will strive to do each and every day.

We want all the communities that we serve to know, and we want to demonstrate, that they are welcome in our home. The Museum is starting the new year by rolling out an unambiguous Diversity and Inclusion Statement that clearly states that we welcome all. But our commitment does not end there. Saying welcome is important. Ensuring that anyone that visits feels welcome is even more so. And encouraging our team to learn, self-reflect, grow, and take action is imperative.

So today, rather than sharing a photo, I’m saying welcome—in just a few of the languages we hear around this institution. It starts with a word, is followed by a statement, and is made real by action and understanding. This, too, is what it means to be the foremost in the world.

Matt Hayes, President and CEO

Welcome.
Who is this guy, anyway?

BY: MATTHEW BURCHETTE, SENIOR CURATOR

IT’S BEEN OVER THREE YEARS since Dan Hagedorn, the Museum’s previous curator, retired. After an exhaustive search, the Museum found me, and I couldn’t be more thrilled. Working here has been a goal of mine since I lived in Seattle in the early 1990s. So, what exactly IS a curator, and how will I fill that role? The term curator comes from the Latin curare, or “to look after.” In the late 14th century the term was used to describe those put in charge of the superintendence of something. As an already respected institution, the Museum will continue to grow its digital outreach. Social media, for better or worse, is changing how people learn and digest information. Look and enjoy. I am also the face and voice of the Museum, which means that I will be doing television, radio, and blog interviews.

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JOIN US AS A FREQUENT FLYER AND MAKE A MONTHLY RECURRING GIFT! IT’S A GREAT WAY TO SUPPORT THE MUSEUM’S MISSION AND KEEP US IN THE SKY!

Make a New Year’s resolution to support your Museum of Flight!

Join us as a Frequent Flyer and make a monthly recurring gift! It’s a great way for you to make a direct gift with ease to your choice of education, restoration, collections, or the Museum’s greatest need.

Your monthly gift provides the Museum with a solid foundation to share the history of flight with others. Be a part of an amazing and dedicated group of aviation enthusiasts and let the Museum of Flight be your muse.

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Your monthly gift provides the Museum with a solid foundation to share the history of flight with others. Be a part of an amazing and dedicated group of aviation enthusiasts and let the Museum of Flight be your muse.
ON OCTOBER 18, 2019, NASA celebrated history’s first spacewalk involving only female astronauts. The 7 hour, 17 minute extravehicular activity (EVA) sent Expedition 61 NASA flight engineers Christina Koch and Jessica Meir outside the International Space Station to replace a failed battery system for the station’s massive solar arrays. The EVA, which was Koch's fourth, and Meir’s first, brought the total number of female spacewalkers up to 15 (14 of them American). For NASA, this represents less than 10% of the astronauts sent to explore outside their spacecraft so far in an era of demographics that has a long way to go, but which is moving in the right direction with the 2019 EVAs by Anne McClain, Koch, and Meir.

Both astronauts arrived at this moment after exceptional careers steeped in the exploration of extreme environments. Koch, trained as an electrical engineer, had previously spent three years living and working in Antarctica, including a winter at Amundscion-Scott South Pole Station. She also spent multiple winters at Summit Station in Greenland. Meir, a marine biologist, also visited Antarctica to dive alongside emperor penguins. In 2002, she served as a aquanaut aboard NASA Extreme Environment Mission Operations (NEEMO) 4 expedition, a weeklong space simulation aboard the underwater Aquarius research base. They were selected as part of NASA’s 2013 astronaut class, which was planned to be the first group to focus on a return to deep space exploration. In an article for the Washington Post, they describe their spacewalk experience as “the story of two girls who gazed at the stars with an improbable dream, who as women were given the ‘go’ to egress the airlock.”

Outside of the October spacewalk, Koch and Meir’s time on station is historically significant for a number of other reasons. When Koch returns to Earth this February, she will have spent 335 days in space, setting a new single mission duration record held by Scott Kelly’s year-in-space mission. Koch has already broken the top-ten single mission duration records dominated by Russian cosmonauts. Meir, who is set to land later in the spring, holds dual U.S.-Swedish citizenship. She is officially the second Swedish national, and the first Swedish woman to fly in space. Koch takes an out-of-this-world “space-selfie” with the Earth behind her. (NASA/CHRISTINA KOCH)

Aloft | museumofflight.org 9
“STEPPING OUT” CONTINUED:

at last, hopefully NASA’s suit technology With a 21st century spacesuit in the works spacewalks aboard stations like the ISS. features mobility enhancements designed its new suit being designed for lunar EV A. sometime in the 2020s. Just days before also preparing to return astronauts to the prepares to celebrate 20 years of continuous astronaut than female. The 2017 class which followed almost matched that mark with just one more male from the 2013 astronaut group, which was the first to include 50% women in its ranks. The 2017 class which followed almost matched that mark with just one more male astronaut than female.

As NASA looks to the future, the agency prepares to celebrate 20 years of continuous occupations of the ISS later this year. It is also preparing to return astronauts to the Moon under the Artemis Program, which will carry the first woman to the Moon sometime in the 2020s. Just days before Koch and Meir’s spacewalk, NASA revealed its new suit being designed for lunar TVA. Dubbed the Exploration Extravehicular Mobility Unit, or EMU, the new suit features mobility enhancements designed to reduce the exertion required to operate inside the suit. The suit will be configurable for both surface operations, as well as spacewalks aboard stations like the ISS. With a 21st century spacetech in the works at last, hopefully NASA’s suit technology will finally provide a boost to its more diverse astronaut corps.

MUSEUM MUSINGS

Blackbird Revealed on Leap Day?

BY: TED HUETTER, SENIOR PR MANAGER

ABOVE: A ground prototype of NASA’s new Exploration Extravehicular Mobility Unit (EMU) as seen Tuesday, Oct. 15, 2019 at NASA Headquarters in Washington, DC. (NASA)

WE SOMETIMES HEAR that the government made the first public announcements about the secret SR-71 Blackbird on Leap Day, Feb. 29, 1964. That’s not quite true. The Blackbird was outs, but it was given a fake name. So, the secret was revealed, but not the real secret. And then there’s the matter of President Johnson mis-identifying the plane and this incorrect name became the real name. Where?

To clear the matters up, I asked Blackbird expert Peter Merlin, author of From Arshangel to Senior Crown: Design and Development of the Blackbird to help. Pete replied with what I believe to be the definitive word on this matter. He also credits retired Col. Richard H. Graham, former commander of the 9th Strategic Reconnaissance Wing and author of Flying the SR-71 Blackbird, for disentangling the LBJ speech controversy. Hang on!

First, some dates. Blackbird first flights are as follows: A-12 (April 24, 1962); YF-12A (August 7, 1963); SR-71 (December 22, 1964). The National Security Council (NSC) decided to publicly “surface” the Blackbird on February 29, 1964. Later that day, the White House announced the development of an advanced experimental aircraft, the “A-11,” which has been tested in sustained flight at more than 2,000 miles per hour at altitudes in excess of 70,000 feet. “So, the secret plane is no longer a secret, but its true identity is not revealed.

To keep the Central Intelligence Agency’s A-12 spy plane covert, the NSC opted to reveal the YF-12A because it was an Air Force predecessor and because it lacked anti-radar (“stealthy”) treatments. Lockheed designer Clarence “Kelly” Johnson suggested referring to the airplane as the “A-11,” which was actually the designation for an earlier, rejected design that was even less stealthy than the YF-12A.

About six months later, the LBJ/SR-71 myth begins. On July 24, 1964, President Lyndon B. Johnson announced the development of the SR-71, a new Air Force spy plane. That is correct. The myth is that LBJ made a mistake during his speech, transposing “SR” for what was “RS” on the name SR-71 was born because nobody wanted to shame LBJ with a correction. He actually got it right.

The SR-71 started out as the R-12 (a Lockheed internal designation) but was at one time destined to be called the RS-71. This was because it followed closely on the heels of the cancelled North American Aviation RS-70 Valkyrie bomber. Strategic Air Command chief Gen. Curtis LeMay disliked the designator and lobbied successfully to change the spy plane’s designation to SR-71.

Audiotapes from the LBJ Library prove that President Johnson used the term RS-70 once (for the cancelled Valkyrie) and mentioned the Blackbird three times, each correctly calling it the SR-71. In an official transcript of the speech a stenographer accidentally switched the letters, changing all three references to “RS-71.” This transcript was given to news reporters, ultimately giving birth to a persistent myth that LBJ transposed the letters during his speech. The tapes prove otherwise.

YE YOU FEEL YOUR BONES RATTLE from the strident roar of the P-51 Mustang’s Merlin engine below your seat. Ahead you see your target silhouetted over the clouds, a Messerschmitt Me 109, come about. Prepping through the sights you attempt to put into practice all the gunnery theory you’ve learned, hoping the complex trigonometry involving lead radii and range has become second nature enough that you can simply know on instinct when to pull the trigger before the enemy pulls his.

You squeeze the trigger, the guns chatter from somewhere ahead of you, and the Me 109 lights up bright red indicating a hit. You sit back and breathe a sigh of relief as your instructor’s voice comes from somewhere near the nose of your ‘plane’. The sound of the engine dies away and the lights on the ceiling turn on, revealing the whole synthetic training system, a new synthetic training device installed by the United States Army Air Forces (USAAF) in late World War II.

Training pilots a dangerous affair. Training accidents plagued pilots in the First World War, killing more aviators than actual combat. One observer claimed that for every 100 British pilots killed in the early war, only two were from “enemy action.” By the 1940s, aviation technology had improved dramatically. Advancements in aerodynamics, engines, materials, and technique had made planes more stable than ever.

Yet these did not fully overcome issues with pilot training. An April 1947 US Navy report shows that of the 12,133 naval aviation personnel fatalities over the course of the war, 3,257 were listed as “Plane Crashes-Other Than Operational” (i.e. Training), hundreds more than the 2,891 killed in actual air combat. In addition to the human cost, training eats up Air fuel, ammunition, and other materials, and technique had made planes more stable than ever.

Though the Gunairstructor has fallen into obscurity today, this device stands as a landmark achievement from a training technology standpoint. It clearly captivated the training commands for the USAAF and the Navy, who ordered over 500 of them before the war ended. And from an engineering standpoint, the sophisticated mechanisms necessary to mechanically calculate values like distance and speed, not to mention to process the dual input of both the pilot’s and instructor’s commands to the system, seem far ahead of their time in an era before computers. Though forgotten today, the Gunairstructor opened the door to new approaches of safely and cost-effectively introduced pilots to the skies.

BY: SEAN MOBLEY, VOLUNTEER SERVICES COORDINATOR

Graphite: An illustration for the Gunairstructor.

GUNAIRSTRUCTOR

Though Forgotten

BELLOW: An illustration for the Gunairstructor. (OPERATION AND SERVICE INSTRUCTIONS FOR AERIAL GUNNERY TRAINTERS ARMY TYPE E-1 NAVY 36-1, USAF, 1944, page 2.)
A Synopsis of Tuskegee Airmen History

BY: DANIEL L. HALLMAN, PHD
PHOTOS: U.S. AIR FORCE

Airmen History of Tuskegee

FEATURE ARTICLE

BLACKS WERE NOT ALLOWED to serve as pilots in American military service until 1942. President Franklin D. Roosevelt authorized the training of the first Black pilots in American military service as a 1940 campaign promise, and in 1941, they began training at Tuskegee, which had been selected because of its climate and because Tuskegee Institute was already training Black civilian pilots successfully.

The Tuskegee Airmen were the first Black pilots in United States military service, and the men and women who served in their units and at their bases. There were more than 14,000 of them, of which approximately 1,000 were pilots. They excelled in combat overseas and resisted segregation at their home bases, contributing to a double victory.

There were three phases of military flight training, primary, basic, and advanced, and each phase took about nine weeks. Primary flight training took place at Moton Field, a Tuskegee Institute facility under contract with the Army, with mostly civilian Black flight instructors. Moton Field had no paved runways during World War II, and most of its training aircraft were biplanes.

Those who graduated from primary flight training continued on to basic and advanced flight training at Tuskegee Army Air Field, this was a much larger base, with paved runways, to the northwest of Tuskegee. The majority of the flight instructors there, throughout WWII, were White. Colonel Noel F. Parrish commanded Tuskegee Army Air Field during most of the war. He desegregated the facilities there, and supported the success of the Black pilots. Tuskegee Army Air Field trained not only single-engine fighter pilots but also twin-engine bomber pilots.

A total of 64 classes of pilots completed training at Tuskegee Army Air Field. The training was so demanding that only about half of the cadets who entered the training graduated. The first class started with 15 and only 5 completed the training. One of them was Benjamin O. Davis Jr., who had graduated from West Point, and whose father became the first Black general in the U.S. Army.

The first Black flying unit was the 99th Pursuit Squadron, later called the 99th Fighter Squadron, activated at Chanute Field, Indiana, in March 1941, but moved to Tuskegee to obtain its pilots. The unit deployed under Colonel Benjamin O. Davis Jr. to combat overseas in the spring of 1943, first going to North Africa and then to Sicily and Italy. It was attached to various white fighter groups at first. One of the white fighter group commanders attempted to have the 99th Fighter Squadron taken out of combat, but failed because the 99th was flying as well as the other P-40 fighter squadrons in the Twelfth Air Force in the Mediterranean Theater. At Anzio in a two-day period, the 99th shot down more enemy airplanes than the other squadrons.

In the meantime, the 332nd Fighter Group and its 99th, 100th, 301st, and 302nd Fighter Squadrons were activated at Tuskegee, and went on to Selfridge Field, Michigan, for further training, before deploying itself to Italy in early 1944 to fly P-39 airplanes for the Twelfth Air Force.

In the middle of 1944, the War Department reassigned the 332nd Fighter Group to the Fifteenth Air Force and equipped it with P-47 and eventually red-tailed P-51 fighters to escort B-17 and B-24 four-engine bombers on missions deep into enemy territory. At the same time, the 99th Fighter Squadron was assigned to the 332nd Fighter Group.

Under the leadership of Colonel Benjamin O. Davis Jr., the 332nd Fighter Group lost bombers to enemy airplanes on only seven of its 179 bomber escort missions between early June 1944 and the end of April 1945. It lost only 27 escorted bombers to enemy aircraft, while the average number lost by each of the other fighter groups was 46. The Black pilots also shot down 112 enemy airplanes.

The bomb pilots who trained at Tuskegee were assigned to the 477th Bombardment Group, which flew B-25 bombers. It never deployed to overseas combat, because it was activated so late. Members of the 477th Bombardment Group resisted segregation in what was called the “Freeman Field Mutiny.” The outcome was the reassignment of the unit’s White leaders to other units, and the assignment of Colonel Benjamin O. Davis Jr. as commander. Benjamin O. Davis Jr. was the first Black base commander when the Air Force was established in 1947.

In 1948, President Harry S. Truman issued Executive Order 9981, mandating desegregation of the military services. Since Tuskegee Army Air Field closed in 1946, the Air Force was already training Black and White pilots together at Williams Field, Arizona. In 1948, the Air Force continued integration by inactivating the all-Black flying units and reassigning their personnel to formerly all-White units. Eventually Benjamin O. Davis Jr. became the first Black general in the United States Air Force. General Daniel “Chappie” James, who had been a member of the 477th Bombardment Group, eventually became the first Black four-star general in any of the military services. In fact, the first three Black generals in the Air Force had all been Tuskegee Airmen.

By their excellence in combat, and their resistance to segregation in the United States, the Tuskegee Airmen contributed to the racial integration of the military services, and eventually of American society. Many of the Tuskegee Airmen themselves continued to serve their country as pilots in the Korean and Vietnam Wars, and some of them also took part in the Civil Rights Movement of the 1960s. The first Black mayor of Detroit, Coleman Young, was a Tuskegee Airman. In 2007, President George W. Bush awarded a Congressional Gold Medal that Congress had authorized to honor the Tuskegee Airmen in 2006. That medal is currently on display at the Smithsonian Institution’s National Museum of African American History and Culture in Washington, D.C. For a deeper dive into the history of the Tuskegee Airmen, join me on Feb. 29 at the Museum. See page 18 for details.

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For more information and how to enter, please visit museumofflight.org/spirit-of-flight

CALL FOR ENTRIES
Open to all photographers
Entry Deadline: March 31, 2020

Entry Deadline: March 31, 2020

For a deeper dive into the history of the Tuskegee Airmen, join me on Feb. 29 at the Museum. See page 18 for details.

From left: Benjamin O. Davis Jr., one of the first Tuskegee Airmen went on to become first Black general in U.S. Air Force. • First training for physical instruction at Tuskegee Army Air Field. • Advanced instruction turned student pilots into fighter pilots at Tuskegee Army Airfield, Alabama. • Graduation day at Tuskegee Army Airfield. • School produced 192 pilots during World War II. • Benjamin O. Davis Jr. commanded the “Red Tails,” an all-Black combat flying squadron during World War II.
Ed Shipley flies a P-51 Mustang in a heritage flight during an air show at Langley Air Force Base, Va. The plane is painted with the distinctive Red Tail flown by the Tuskegee Airmen. (U.S. AIR FORCE/TECH. SGT. BEN BLOKER)
THE MUSEUM WE SAY that this is a place full of stories. Stories (and a few tall tales) about people in all realms of flight. It's that sort of place.

I'm inclined to imagine the voices in these stories. Yes, I hear voices. Individual conversations among the thousands of people who have been on board our flying machines. Stepping into our United 727 I hear flight attendants chatting after their preflight pater, and the pilots with their radio chatter. My ears ring as newlyweds whisper while crossing the Great White North in our Trans-Canada Constellation. Then there are the two strangers in the aft lounge, flirting with each other. A boarding ramp was being lowered, and the pilots with their radio chatter. My ears ring as newlyweds whisper while crossing the Great White North in our Trans-Canada Constellation. Then there are the two strangers in the aft lounge, flirting with each other.

Inner voices also haunt the collection. Daydreams in the old Stinson. Curses in the Blackbird. Fear in the B-17. All languages, including sign.

Our world of flight is very vocal. We'll never know a fraction of the conversations that live in our collection. Some may know a few. I'm happy just imagining them, and encapsulated when I meet Museum visitors that live in our collection. Some may know a fraction of the conversations that live in our collection. Some may know a few. I'm happy just imagining them, and encapsulated when I meet Museum visitors that live in our collection. Some may know a fraction of the conversations that live in our collection. Some may know a few. I'm happy just imagining them, and encapsulated when I meet Museum visitors that live in our collection. Some may know a fraction of the conversations that live in our collection. Some may know a few. I'm happy just imagining them, and encapsulated when I meet Museum visitors that live in our collection. Some may know a fraction of the conversations that live in our collection. Some may know a few. I'm happy just imagining them, and encapsulated when I meet Museum visitors that live in our collection.
February

CALENDAR OF EVENTS

LECTURE

History of the Tuskegee Airmen with Dr. Daniel Haulman
Author and Historian Dr. Daniel Haulman, former Chief of Organizational Histories at the Air Force Historical Research Agency, will discuss the history of the Tuskegee Airmen, the first African American pilots in American military service, who fought in WWII.
WILLIAM M. ALLEN THEATER
Saturday, Feb. 29 | 2 to 3:30 p.m.

SPECIAL EVENT

Popsicle Stick Bridge Contest
Passions run high as teams of high school students from around Puget Sound compete to have their dreams shattered. Competitors must design and build small bridges that are strong and aesthetically pleasing while using only popsicle sticks and white glue. The bridges are judged for creativity, and then subjected to the pressures of a hydraulic press until they snap. The longest-lasting and most original structures win.
T.A. WILSON GREAT GALLERY
Saturday, Feb. 8 | 10 a.m. to 2 p.m.

LECTURE

Michael P. Anderson Memorial Aerospace Program Special Presentation
In honor of Black History Month, and in conjunction with the Michael P. Anderson Memorial Aerospace Program—an annual event which gives underserved children throughout Washington the chance to participate in the Museum’s educational programs rooted in aerospace—the Museum will hold a special public presentation. For details, visit museumofflight.org/Calendar.
WILLIAM M. ALLEN THEATER
Saturday, Feb. 1 | 2 to 3 p.m.

SPECIAL EVENT

Scale Modelers Show
Experience vast numbers of scale model aircraft, cars, tanks, ships, figures, & more at one of the largest model shows in North America! A special display will commemorate the 75th anniversary of the end of WWII.
T.A. WILSON GREAT GALLERY
Sat.-Sun., Feb. 15 & 16 | 10 a.m. to 5 p.m.

TOY FROM THE COLLECTION

USS Missouri Die-Cast Toy
The USS Missouri battleship is best known as the ship that accepted the surrender of Japan in 1945 near the end of World War II. She participated in the Pacific Theater during WWII, as well as in the Korean War and in Operation Desert Storm. During WWII, the Missouri sailed with a group of aircraft carriers, and served as support for depatriating US aircraft, notably during the Iwo Jima invasion. The USS Missouri is now a museum in Pearl Harbor, Hawaii and is listed on the National Register of Historic Places due to the important role she played in ending WWII. This die cast toy was collected by aircraft engineer and air racing enthusiast James E. Francis. It was donated to the Museum in 2012, along with 50 other aircraft models from his collection. The toy was made by Motor Max, circa 2002.

WELL S FARGO

WILLS 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. Eliot McCaw Personal Courage Wing, Charles Simonyi Space Gallery, Aviation Pavilion and more from 5 to 9 p.m. The Museum Store and Wings Café will also remain open for extended hours.
T.A. WILSON GREAT GALLERY
Thursday, Feb. 6 | 5 to 9 p.m.

LECTURE

With Dr. Daniel Haulman
Wells Fargo
Free First Thursday
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T.A. WILSON GREAT GALLERY
Thursday, Feb. 6 | 5 to 9 p.m.

WEEKEND FAMILY WORKSHOPS

Light and Shadows
This month, we’ll be investigating shadows. From explorations of the universe to helping us tell time and seasons on Earth, the science of shadows is full of surprises. Depending on what you see, there may be six more weeks of winter!
SIDE GALLERY
Saturdays and Sundays, Feb. 1-2, 8-9, 15-16, and 22-23 | 11 a.m. to 2 p.m.
NOTE: Times and locations subject to change. Please check our website for changes.

SPECIAL EVENT

Puget Sound Engineering Council Fair
The universal span of engineering is demonstrated at The Puget Sound Engineering Council’s annual Engineering Fair. Youth interested in engineering can learn all about exciting career opportunities by talking to professionals in the field from local chapters of NASA, Boeing and universities. Student clubs will be in force, along with hands-on activities for children.
SIDE GALLERY
Saturday, Feb. 8 | 10 a.m. to 4 p.m.

MEMORIAL AEROSPACE PROGRAM

In honor of Black History Month, and in conjunction with the Michael P. Anderson Memorial Aerospace Program—an annual event which gives underserved children throughout Washington the chance to participate in the Museum’s educational programs rooted in aerospace—the Museum will hold a special public presentation. For details, visit museumofflight.org/Calendar.
WILLIAM M. ALLEN THEATER
Saturday, Feb. 1 | 2 to 3 p.m.

Tuskegee Airmen

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Wind Flyers

By: Angela Johnson
Illustrated by: Loren Long
Three-time Coretta Scott King Award-winning author Angela Johnson and New York Times bestselling illustrator Loren Long invite readers to ponder a band of undercelebrated World War II heroes—the Tuskegee Airmen. With fleeting prose and transcendent imagery, this book by the masterful author/artist duo reveals how a boy’s love of flight takes him on a journey from the dusty dirt roads of Alabama to the war-torn skies of Europe and into the hearts of those who are only now beginning to understand the part these brave souls played in the history of America.
MEMBER PRICE: $15.29 ($17.99 retail)
Available in the Museum Store and online at museumofflightstore.org

Engineers

Youth interested in engineering can learn all about exciting career opportunities by talking to professionals in the field from local chapters of NASA, Boeing and universities. Student clubs will be in force, along with hands-on activities for children.
SIDE GALLERY
Saturday, Feb. 8 | 10 a.m. to 4 p.m.

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The G. Harry Stine Space History and Model Rocketry Collection Archives

BY: CHARISE MICHELENS, PROJECT ARCHIVIST

The Collections Department is excited to announce that it has completed processing the archival component of the G. Harry Stine Space History and Model Rocketry Collection, all the archival material is now organized and preserved. There is also now a comprehensive finding tool for the public to search through our archives research portal online at archives.museumofflight.org. The finding tool provides contextual background information and includes a detailed listing of all series and folders. With online access, researchers from around the world can easily access the collection and request materials for on-site viewing in our archives. The museum hired me as Project Archivist in August 2018 to make the materials related to hobby rocketry available to the public, the museum launched an exciting multi-year project to preserve and catalog the first collection received from the organization, The G. Harry Stine Space History and Model Rocketry Collection. The museum hired me as Project Archivist in August 2018 to process the Stine Collection, largely thanks to the generous support of the NAR, its members, and Museum of Flight Trustee Dr. John Talley Guill and illustrated by G. Harry Stine. This was a major achievement bringing access of the G. Harry Stine Space History and Model Rocketry Collection archives to researchers. The museum’s Collections Department staff is dedicated to preserving artifacts and collection material related to the history of space and model rocketry. Now that work on the archival portion of the collection is complete, I will focus on cataloging and preserving the related artifacts and library materials. In the interim, researchers are welcome to use the material already archived. Contact curator@museumofflight.org for more information or to make an appointment.

Open for Research

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Celebrate the First World Flight

BY: ROBERT DEMPSTER

[April 6, 1924, The first flight around the world started in Seattle, Washington.]

FOUR DOUGLAS WORLD CRUISER aircraft, named for American cities Seattle, Chicago, Boston, and New Orleans, and flown by United States Army Air Service pilots, departed, on floats, taking a northerly route through Alaska and the Aleutian Islands, to Japan. This was a major achievement with harsh conditions in Alaska, and loss of life in the Bagdad, Seattle. Maj. Martin and Sgt. Harvey spent 10 days hiking through the snow, to their rescue at Port Moller. The three remaining crews undertook the long.
The Seattle Aviation History Starts Early

Sixteen years earlier, in 1908, balloons flew over Seattle. In 1910, Charles Hamilton flew the first airplane at The Meadows, a racetrack in the Duvall/Mountain Valley. By and by, Jefferson Golf Links, Harbor Island, Kent, and Lake Union would be used for landing fields. By 1915, Bill Boeing was flying off of Lake Washington, shifting over to Lake Union in 1916. By June 1920, King County had purchased a large tract of land at Sand Point. At the dedication ceremony, Sand Point's history begins with the allocation of this field to the service of our community. In 1924, when the world fliers landed there, the flight was graciously hosted by the Seattle Chamber of Commerce, with receptions, parades, dinners, and a christening ceremony of the airplane at Sand Point. The Chamber also financed building the pier at Sand Point, so the aircraft could be transitioned from wheels to floats. The Boeing Company was also instrumental in helping with the preparations. Boeing workmen helped assemble the floats, made subsequent adjustments during the flighting process, welded repairs on some of the airframes, and patched holes in the floats. Boeing workers also spent all night repairing a propeller for Maj. Martin’s aircraft. With the float-equipped flagship Seattle, so they could make their April 6 departure. The Boeing Company’s enthusiasm and support for the world flight was evidenced in a letter from then Boeing president Ed Gott, where he described how the company collected flight gear and tools for the aircraft and crew members. In tribute, The Boeing Company dedicated team of volunteers and craftsmen—the honor of being the first country to encircle the world entirely by air. A great deal of valuable information, especially the difficulties of operating aircraft in various climates, will also be obtained. “All of these objectives, and more, were accomplished on the first world flight. From Japan, the World Cruisers advanced to Calcutta, where landing gear with wheels replaced the floats, for overland portions of the route across India, the Middle East, and Europe, to England, where again, the flight resumed on floats, for an eventual island hop over the Atlantic Ocean. During that crossing, one aircraft made a forced landing, and eventually the Boston crew was transported to Nova Scotia by the Navy, where the prototype World Cruiser was delivered, and named the Boston II, so that they continued the flight. The flight of three then headed to Boston, USA, with a final transfer to wheels for a jubilant tour around the USA, final destination: Seattle. Their momentous flight made 73 stops, in 22 countries, flying over 16,800 miles, in 363 flying hours, spanning almost six months, landing back in Seattle on the 28th of September, at Sand Point, just 100 miles from completing the first aerial circumnavigation of the world. It was a journey made possible through US government support at the highest levels, with the assistance of U.S. Embassies in attaining passage permissions through the various countries on the route. All of this was aided with the joint cooperation of the U.S. Army Air Service, Coast Guard, and especially the U.S. Navy. Writer and historian, Peter M. Bowers, wrote, in 1974—on the 50th anniversary of the first world flight: “The magnitude of that flight, in terms of preliminary study and engineering, worldwide logistic support, crew training, inter-service cooperation and diplomatic clearances, personal skill and determination is almost directly comparable to a Moon landing today.”

Seattle World Cruiser Project

Seattle World Cruiser (SWC) was a project to build a full-size, five-seater replica of the 1924 Douglas World Cruiser. The Douglas World Cruiser was designed and built by William E. Boeing in 1924. The SWC project was established in 2001, as a 501(c)(3), nonprofit, charitable, Arts & Cultural Organization, with a focus on aviation and historical preservation. As part of our mission, we provide community educational programs, public tours of our projects and historical presentations. The first world flight represents not only the second major milestone of flight, after the Wright brothers, it laid the groundwork for exploration that continues today.

Inspired by this great feat, a small, dedicated team of volunteers and craftsmen—using original drawings and a few significant parts of the original Seattle, the flagship of the 1924 flight—have constructed a full-scale, 50-foot wingspan, flying reproduction of the Douglas World Cruiser, that weighs over four tons, fully-loaded, on floats. At a christening dedication at The Museum of Flight, and following the precedent of naming the prototype the “Boston II,” we have christened our sturdy ship Seattle II, and were honored by the Douglas People, after whose chief our city and aircraft are named. At that ceremony, Mr. Ken Workman, 5th generation grandson of Chief Seattle, in his presentations, called this airplane “Thunder Canoe,” a name which proudly joins “Seattle II” on the aircraft’s bow.

In 1924, Admiral Robinson said, at the conclusion of the flight, “Other men will fly around the earth, but never again will anybody fly around it for the first time.”

This historic flight was exceptional, occurring in an era when aviation has recently advanced from planes being used for barnstorming, progressing to the pivotal event of circling the planet. Our 2020 celebration of world flight will honor this amazing original flight, and those who made it possible. And, on a larger scale, we are celebrating our human heritage of Man As Explorer.

Please visit our website for more information, seattleworldcruiser.org.

Thank you to our community partners for their continuing support!

Volunteer Profile

Pete Metzelaar

BY: STEVE DENNIS, VOLUNTEER

Pete Metzelaar was a member of the Holocaust Center for Humanity’s Speakers Bureau and, based on his studies and personal experiences, has told his story to thousands of students and community groups in the Northwest. Pete has presented his story at a Museum volunteer gathering and is a regular speaker in the Quonset Hut Storytelling program, in the World War II Personal Courage Wing, under the title “Dutch Holocaust Survivor.”

Pete tells his personal story with a passion for its grim lessons and with a realization that each year there are fewer people who experienced the terror firsthand and can share their personal stories. His favorite area as a docent is the T.A. Wilson Great Gallery. His favorite aircraft is a bit of a dichotomy. Pete enjoys talking about the Blackbird, the world’s fastest manned jet aircraft, and the Gossamer Albatross, arguably the slowest.

Pete is not above having a bit of fun when he experiences a Dutch visitor, who he can identify by their accented English. He comments on his good English and on how difficult the Dutch language must be. When they rise to defend their native tongue he responds in Dutch and the ice, if any, is broken.

Pete enjoys his docent friends, the visitors and the chance to tell his story that the Museum offers. (And his English is excellent!)
New Plaques in Memorial Park

The Museum Commemorated Veterans Day over the weekend of November 9-11 with a full lineup of programs including the unveiling of 29 new Tribute Plaques in the Vietnam Veterans Memorial Park. Since the park’s May 2019 opening, we continue to receive interest from veterans and their loved ones in our community who want to add their personalized messages to the Memorial Park Tribune Wall to honor their dedicated service.

The event’s keynote speaker was Dave Cable, a Museum docent, a veteran Navy pilot who flew Grumman A-6 Intruders during the Vietnam War, and an integral part of the Project Welcome Home steering committee that helped raise the funds to build this beautiful Memorial Park. “Two of my best friends are among those being added to the Tribute Wall today,” Dave said. “I know that every tribute plaque has a story, known only to that hero and their loved ones, and I sincerely wish that we had time to tell all of their stories today.”

Also speaking at the event was Mr. Alex Kun-shu Fan, the Director General of the Taipei Economic and Cultural Office in Seattle. One of the plaques unveiled was in honor of the Black Bat Squadron, a Republic of China Air Force reconnaissance squadron based in Taiwan who assisted the United States in gathering intelligence during the Vietnam War. Mr. Fan said, “The U.S. government’s appreciation towards the Vietnam War veterans and the contributions of the Black Rat 34th Squadron is long-lasting and will forever remain a part of the shared history between Taiwan and the U.S.”

Legacy Planning Workshop

Are you confused by powers of attorney? Do you need the 4-1-1 on beneficiary designations? Join us for a Legacy Planning Workshop. Learn the basics of estate planning and the legacy you want to leave. We will cover the topics of wills, power of attorney, and beneficiary designations. And in partnership with the Seattle Humane Society and the Legacy Planning Network, we are excited to host the Legacy Planning Workshop on Wednesday, Jan. 29 from 1 to 2:30 p.m. RSVP required.

Seating is limited. Please contact Sandra Dolese at 206.768.7199 or email at SDolese@museumofflight.org.

2020 Kids Challenges

The Museum’s Celebration of the 50th anniversary of the Moon landing contributed to what was a banner year featuring lots of new programs and activities including two contests for kids ages 5 to 17. These contests included Spacesuit Design Challenge where students designed and built their own spacesuits and Space Art Challenge where students were encouraged to create a two-dimensional art piece honoring the creativity involved in space exploration.

We are always striving to engage students with science, art, and history. In 2020, we will have four contests for students ages 5 to 17. The first contest is Spirit of Flight Junior, a photo contest for all young photographers to capture the spirit of flight. The second is Spacesuit Design Challenge: What Would Yuri Wear? We are asking students to put a vintage spin on their designs to create something Yuri Gagarin, the first man in space, might have worn back in the 60s. Next is the Victory Garden contest. To celebrate the 75th anniversary of the end of World War II, we are encouraging students to grow their own victory garden and participate in a produce contest. The last contest is Empire Writes Back! A Star Wars writing contest to encourage students to think beyond the story they know to create something new.

These contests highlight the link between science, art and history. We look forward to lots of entries and to see how our contestants use their imaginations to create colorful new worlds.

For more information on any of these contests, please visit museumofflight.org/Kids-Design-Challenges.
By: Mary Batterson, Corporate Partnerships Officer

In a region that is home to some of the biggest names in the technology sector, it may come as a surprise that many families in our community don’t have access to technology in their homes. The “digital divide” refers to the growing gap between those with access to computers and the internet and those who lack access. A unique partnership between The Museum of Flight, First Tech Federal Credit Union and InterConnection, is helping bridge the digital divide for students enrolled in the Museum’s Michael P. Anderson Memorial Aerospace Program (MPA).

Now entering its 11th year, the MPA program inspires underserved middle school (6th-8th grade) youth of color from across Washington state to experience the thrill of math and science and to dream of their own possibilities within the fields of Science, Technology, Engineering and Mathematics (STEM). The program is a combination of online assignments, field trips and mentorship by aerospace and aviation professionals of color. “To increase access and encourage participation—especially for students that live in underserved communities. “For nearly a year, our team worked with the Museum to put this technology into the hands of students who would otherwise not be able to afford it,” said Cheryl Roe, InterConnection President. “Funding from First Tech Federal Credit Union allowed us to move the project from discussion to reality.”

Through this collaboration, the Museum was able to provide 20 laptop kits, including broadband internet access, to students enrolled in the MPA program who did not have a computer at home or who were without permanent housing. It is the first time this kind of support has been available to students at the Museum. Not only did these computers impact the lives of the MPA scholars, they also impacted their siblings and parents, by providing much needed tools for completing homework, finding employment, and participating in the social aspects of a society that increasingly revolves around access to technology. Without the support of First Tech Federal Credit Union, it is highly unlikely these students would have been able to participate in the MPA program.

As the Museum works to increase its educational reach through digital learning opportunities, partnerships like the one with First Tech Federal Credit Union and InterConnection will help bridge the “digital divide” and provide increased access to underserved communities. A renewed commitment from First Tech Federal Credit Union will provide 20 additional laptop kits to participants in the 2020 MPA program.

For information on how you can help support this program or others like it, please reach out to Mary Batterson, Corporate Partnerships Officer at 206-764-5879 or email MBatterson@museumofflight.org.

JoeAnn Alexander
Byron G. Behrens
John C. Blackman
Lil Bub
Timothy C. Burkart
Charles L. Childs
Dorothy L. Collings
In Memoriam
Robert E. Drew
J. Orin Edson
Daniel E. Ellkins
James R. Ellis
Goldie T. Feinberg
Ruth Forhan
Harry L. Hill
In Memory
In memory of Michael P. Anderson
Harold L. “Mitch” Mitchell, USAF (Ret)
and Kelly Mitchell
In memory of Harry L. Arndt, Sr.
Cristina and Mitchel Arndt
In memory of B-17 crash victims,
Collings Foundation’s “Nine-O-Nines,”
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In memory of Roy Grinnell
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In memory of James H. Jackson
Fred and Janice Naslund
In memory of George M. Kau
Peggy A Kau
Chelten, Alexandria, Victoria, Samantha,
Matthew, Sierra
In honor of Katy Ahrens
Anne Melton
In honor of Luella M. Armstrong
Walt and Rita Brathwaite
Wilcox and Sharon Creeden
In honor of Clearence A. Borley
Paula Clark
In honor of Terry Brown
Pamela and David Kiesel
In honor of Aaron Luthe
Lara Luthe
In honor of Museum of Flight Volunteers
Matthew B. Hayes and Laura Jacumin

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Karl and Tina Neiders
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David Gauger
In memory of Edward A. Pottenger
John Purvis and Nancy Wright
Marlene Taylor Houtchens
In memory of Brien Wygle’s 95th birthday
Adell and Frances Anderson
CG “Terry” King
Emily King
Frederick and Mary Mitchell
John K. Wimpess
Ronald and Carolyn Woodard
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Tribute Gifts

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“Providing access, equity and inclusion to STEM education for underserved communities.”
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Camps for Pre-K through 9th grade!

For full camp descriptions and session dates, visit our website at museumofflight.org/ACE.

Registration for Mid-Winter Camp opens Jan. 15!

Registration for Spring, Summer and Fall camps opens Feb. 3!