

# FLIGHT LINES

A PUBLICATION OF THE SOUTHERN MUSEUM OF FLIGHT  
BIRMINGHAM, AL

[WWW.SOUTHERNMUSEUMOFFLIGHT.ORG](http://WWW.SOUTHERNMUSEUMOFFLIGHT.ORG)

MARCH

2020



March Is  
Women In Aviation  
Month

## MESSAGE FROM THE DIRECTOR



**W**e're off to a great start in 2020, and I'd like to take this opportunity to discuss a few of the exciting projects at the Southern Museum of Flight!

We wrapped-up a successful year in 2019 with the announcement of our Aviation Workforce Initiative, or AWI, which is now underway in its first phase.

As we bring about a general awareness regarding career opportunities within the aviation & aerospace industries, we will also be laying the foundation for the initial offerings of aviation workforce development programs on the Southern Museum of Flight campus. These initial offerings will include a multitude of aviation maintenance programs, which will certainly open the door for successful and promising careers for so many students.

Our traditional educational programing is also reaching a new "altitude." In the month of February, we delivered an array of programs honoring Black History Month. These programs included Black Aviation Pioneers tours, Tuskegee Airmen outreach programs, and an evening program featuring Gigi Coleman, the grandniece of Bessie Coleman, the first African-American female to receive an international pilot's license. These programs helped us kick-off the New Year, and we're "gearing-up" for more, so stay tuned...

As always, we appreciate the support of all of our museum team members, and I encourage you to check out our museum's membership opportunities! The Southern Museum of Flight is proud to be a part of the Association of Science & Technology Centers (or ASTC). Museum members can take advantage of the ASTC's Passport programs and enjoy admission to more than 300 museum and science centers across the country.

Visit our website for more information, or just give us a call, and I look forward to seeing you at the Southern Museum of Flight!



Brian J. Barsanti, Ph.D.  
Executive Director

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### Flight Lines

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Comments are welcome and should be addressed to:

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# MISS AMERICA OF AVIATION



## RUTH ELDER (1902 - 1977)



*"There's more to life than being a passenger."*  
—Amelia Earhart

**R**uth Elder was born on September 8, 1902 in Anniston Alabama. She worked in Birmingham at a department store, got married, moved to Lakeland, Florida and took a job in a dentist's office.

Swept up in the fever and glamour of air travel in the 1920s, Elder and her husband became interested in flying and took lessons. Ruth cut a striking image, with her curly brown bobbed hair that she pulled back into a colorful scarf. She was even asked by some of her husband's business friends to film her in a plane and sell it to Hollywood.

With two years of regional flights under her belt, Elder announced plans to be the first woman to fly across the Atlantic Ocean (*with the help of the pilot who trained her, George Haldeman.*) When she went to New York City to begin the trip to Paris, the press mobbed her. The twenty-four-year-old was a media natural.

The day of the flight, a crew loaded the monoplane with gas, an emergency radio, a basket of food - sandwiches, chocolate bars, dill pickles, soup broth, and two quarts of coffee - and rubber



suits meant to keep the pilots afloat in case of a water landing.

But fifteen hours into the flight, trouble began. The plane's engine struggled, ice formed on the wings, and the oil pressure dropped. Eight hours away from Europe in the middle of the ocean near Portugal's Azores Islands, they had to ditch the plane into the sea alongside an oil tanker. The ship's crew pulled Elder and Haldeman aboard as they all watched the Stinson SM-1 "*Detroiter*", **American Girl**, burst into flames and sink beneath the waves. At the time, it was the longest flight ever made by a woman, a new over-water endurance flight record of 2,623 miles. *"If Ruth had made it across the ocean in 1927, it would have changed everything. Amelia Earhart might not have even attempted the flight,"* says author Keith O'Brien, whose book **Fly Girls: How Five Daring Women Defied All Odds and Made Aviation History** shares the heroic sagas of early aviators, including Elder and Earhart, who pointed the way for female pilots.

When she returned to the United States by ocean liner two weeks later, President Calvin Coolidge greeted her in Washington, D.C. Folks back in Anniston invited her home for "*Ruth Elder Day*" and soon Hollywood producers and vaudeville shows came calling. Ruth appeared in a handful of films, the most popular being 1928's *Moran of the Marines*. She did take part in a few air races throughout her life, was considered a colleague of Earhart's, and never forgot her love of flying.



Tuesday, Dec. 11, 1977 JOURNAL HERALD 21

Ruth Elder will be remembered for her bold and daring spirit, and for the confidence it took not only to make that flight, but to graciously deal with all the pressures and expectations she faced.

## 'Miss America of the Air' dies

SAN FRANCISCO (AP) — Ruth Elder, dubbed the "Miss America of the Air" after a failed attempt to be the first woman to fly the Atlantic, will be cremated and her ashes scattered over San Francisco Bay. Ms. Elder, 74, died in her sleep Sunday at her downtown San Francisco apartment. Her husband of 21 years, Ralph F. King, said there would be no funeral services. Her ashes will be scattered over the Golden Gate Bridge by a plane, probably next week, King said.

Elder, the "Miss America of Aviation", was an aviation pioneer, carried a private pilot certificate P675, an actress, and a charter member of the Ninety-Nines.



# WOMEN IN AVIATION



**The first 10 female officers to graduate from the Air Force Undergraduate Pilot Training Program, Class 77-08, with a Northrop T-38A Talon, 2 September 1977 (USAF)**

In 1975, the USAF chief of staff announced the establishment of a test program for female pilots and navigators. Although women had already proven their ability to fly military aircraft, such as the WASP had in World War II, this test program would establish a precedent for the future of USAF female pilots. The candidates were all officers from various career fields, including a nurse, engineer, and a maintenance officer.

On August 26, 1976, Capt. Connie Engel, Capt. Kathy LaSauce, Capt. Mary Donahue, Capt. Susan Rogers, Capt. Christine Schott, 1st Lt. Sandra Scott, 1st Lt. Victoria Crawford, 2nd Lt. Mary Livingston, 2nd Lt. Carol Scherer, and 2nd Lt. Kathleen Rambo began the Cessna T-41 flight screening program at Hondo Municipal Airport in San Antonio, Texas.

On September 26, 1976, they proceeded to Williams Air Force Base and together with their 35 male classmates began a 48-week pilot training course. Each candidate accumulated 210 hours in the Cessna T-37 and the Northrop T-38, and 790 hours in academic, flying, and officer training.

Connie Engel was the first woman to solo in the T-41 and T-37, and she was the first woman to lead a two-ship formation. Christine Schott was the first woman to solo in the T-38.

These women not only passed the course, but also excelled. On September 2, 1977, all 10 women earned their silver wings. Connie Engel, who was the class leader, received the Air Training Command Commander's Cup for overall leadership and flying ability. Additionally she was awarded the Officer Training Award. Mary Donahue received the Academic Award, missing only one question out of 395 asked during formal examinations.

These women went on to fly in support of many combat missions including Grenada, Panama, Desert Storm, Desert Shield, and African conflicts. They also accumulated a few more "firsts."

Connie Engel became the first female T-38 instructor and flew T-38 chase for the space shuttle program. Kathy LaSauce was the first female pilot to command a C-141. Mary Donahue became the first female pilot assigned to the Air Force Academy, where she taught senior cadets to fly the T-41 trainer and was an instructor in the department of mathematical science.

When the Marine barracks in Beirut, Lebanon, was bombed, Susan Rogers evacuated many victims of the attack in her C-141 (*she passed away in 1992 following a long struggle with cancer*). When Women Military Aviators created their first scholarship, they named it in her honor. Christine Schott was the first to qualify as a C-9 aircraft commander. She also commanded the first all-female aircrew in the C-9. Sandra Scott became the first female tanker commander to perform alert duty for SAC, the Strategic Air Command.

The test program opened a door, which these women pushed through for others to follow. The results were increased opportunities for rank advancement, command opportunities, and ultimately, piloting the entire inventory of Air Force aircraft, test pilot programs, and spacecraft.

The entire UPT Class 77-08 were inducted into the Women In Aviation International's Pioneer Hall of Fame in 2016.



# NOTABLE WOMEN AVIATORS



## THE SOVIET “NIGHT WITCHES”

They flew under the cover of darkness in bare-bones plywood biplanes during World War II. They often operated in stealth mode, idling their engines as they neared their targets and then gliding their way to their bomb release points. As a result, their planes made little more than soft “whooshing” noises as they flew by. So the Nazis began calling the female fighter pilots *Nachthexen*: “night witches.” They were loathed and they were feared. Any German pilot who downed a “witch” was automatically awarded an Iron Cross.



During World War II, women in the Soviet Union had participated in support roles but there were many who also wanted to be combat pilots. A famous woman pilot, Marina Raslova (known as the “Soviet Amelia Earhart”), petitioned Joseph Stalin to let her form an all-female fighting squadron. In 1941, Stalin gave orders to deploy three (3) all-female air force units. The women would be tasked with flying missions, dropping bombs and would return fire – making the Soviets the first nation to officially allow women to engage in combat.

The military, unprepared for women pilots, offered them meager resources. They were provided with outdated Polikarpov Po-2 biplanes and 1920s cropdusters that had been used as training vehicles. These light two-seater, open-cockpit planes were never meant for combat.



The Polikarpovs could only carry two bombs at a time, one under each wing. In order to make meaningful dents in the German front lines, the regiment sent out up to 40 two-person crews a night. Each would execute between 8 and 18 missions a night, flying back to re-arm between runs. The weight of the bombs forced them to fly at lower altitudes, making them a much easier target—hence their night-only missions. The first planes would go in as bait, attracting German spotlights, which provided much needed illumination. These planes, which rarely had ammunition to defend themselves, would release a flare to light up the intended target. The last plane would idle its engines and glide in darkness to the bombing area.

Altogether, these daredevil heroines flew more than 30,000 missions. They dropped 23,000 tons of bombs. They lost a total of 30 pilots, and 24 of the flyers were awarded the title, Hero of the Soviet Union. Their last flight took place on May 4, 1945 when the Night Witches flew within 37 miles of Berlin. A few days later, Germany surrendered to the Allied forces.

## THE NINETY-NINES

The Ninety-Nines, Inc. is the international organization of women pilots that promotes advancement of aviation through education, scholarships and mutual support while honoring their history and sharing their passion for flight. The Alabama Chapter was chartered on August 30, 1954.



Each year, **Amelia Earhart Memorial Scholarships** are awarded to qualified members for advanced flight training, jet type ratings, technical training, an emergency maneuver training scholarship and an International scholarship for pilots in developing countries. Funding of up to \$10,000 per academic year is awarded for academic scholarships.

Since 1941, the AEMSFP has awarded almost 800 scholarships and over 250 awards to student pilots earning their first certificate. The amount awarded for these scholarships, including Research Scholar Grants and Fly Now Awards exceeds \$11.8 Million.

The Alabama Ninety-Nine’s members have left their mark on the museum by creating a “compass rose” on the concrete in the front picnic area of the museum



The Ninety-Nines At The SMF



# VOLUNTEER WITH THE SMF

**W**e would like to thank all our current and past volunteers - you are vital to the success of the museum and without you, we would not be the facility we are today.

The museum is looking for additional volunteers to assist with the Docent program and participate in the unique Aircraft Restoration efforts.

## BE A DOCENT

Love to teach, comfortable in front of a crowd, can you keep groups of 4 years olds engaged and excited about aviation in the morning and do the same thing for a group of Seniors in the afternoon? If so, we need you as a volunteer Docent here.



Our Docent program needs committed volunteers who are willing to spend time training to give tours on a regular basis at the museum. As a Docent, you will represent and provide the vital

Education programs to our visitors young and old. We will teach you the historical and practical knowledge to give tours, demonstrate hands-on activities, and conduct a "Learn to Fly" course in our Flight Simulator Lab. We'll show you the many techniques we use to keep our visitors engaged and enthusiastic during their visit to the museum. Although knowledge of flying is helpful, it is not a requirement. This is an intensive program and a Docent must be committed to the training process. You will be the face of the museum and we will ensure you are prepared for this responsibility if you commit the time to finish our training.

Docents must be comfortable in front of crowds, engaging with children, and a bit of an actor/humorist to keep our Field Trips and private groups excited and actively learning during their visit. A background check is required.

Call our Education Coordinator at **833.8226** to set up an appointment to see if you are the right fit for the Docent program.

## AIRCRAFT RESTORATION

Are you mechanically inclined, do you love



airplanes, are you willing to roll up your sleeves and get your hands dirty on some of the rarest and most historic aircraft you'll ever get to see up close and personal? Then we need you as an Aircraft Restoration Volunteer.

You will work and learn alongside some of the most qualified aircraft builders, mechanics and aviators in the Birmingham area, who are some of the most enthusiastic and capable volunteers the museum has ever seen. Our Aircraft Restoration Technician is a 24 year veteran of the USAF and is responsible for the maintenance and restoration of 100 aircraft presently in the museum's inventory. Go behind the scenes of our world class exhibits with him and assist in the restoration and improvement of everything from vintage World War I flyers to modern day jets and helicopters.

Call our Aircraft Restoration Technician at **833.8226** to get more information about becoming a volunteer.

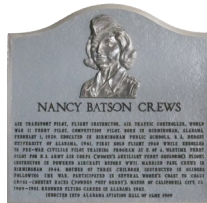


# ALABAMA AVIATION HALL OF FAME



**Nancy Batson Crews**

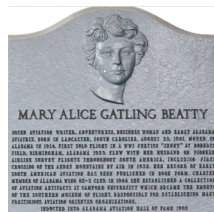
**Inducted  
in 1989**



Air transport pilot, flight instructor, air traffic controller, World War II ferry pilot, competition pilot. Born in Birmingham, Alabama, February 1, 1920. Educated in Birmingham public schools. BA degree University of Alabama 1941. First solo flight 1940 while enrolled in pre-war Civilian Pilot Training program at U of A. Wartime ferry pilot for U.S Army Air Corps (*Women's Auxiliary Ferry Squadron*). Flight instructor in powered aircraft before WWII. Married Paul Crews in Birmingham 1944. Mother of three children. Instructed in gliders following the war. Participated in several women's coast to coast cross-country races (*Power Puff Derby*). Mayor of California City, CA 1978-1981. Resumed flying career in Alabama 1982.

**Mary Alice Gatling Beatty**

**Inducted  
in 1995**



Noted aviation writer, adventuress, business woman and early Alabama aviatrix. Born in Lancaster, SC, August 23, 1901, moved to Alabama in 1914. First solo flight in a WWI Curtiss "Jenny" at Roberts Field, Birmingham 1923. Flew with her husband on pioneer airline survey flights throughout South America, including first crossing of the Andes mountains by air in 1932. Her record of early South American aviation has been published in book form. A collection of aviation artifacts at Samford University which became the embryo of the Southern Museum of Flight. Responsible for establishing many prestigious aviation oriented organizations.

night, and to own a flying school. She taught her brother Eddie, to fly. In World War I she trained pilots from the US and Canada. She was President of Stinson Aircraft Company in San Antonio, Texas where Stinson Field is named for her. Her activities focused international attention on San Antonio contributing significantly to its development as a center of aviation.

**N. Jan Davis**

**Inducted  
in 2001**



Born in Cocoa Beach, Florida, but considers Huntsville, Alabama her hometown. Graduated Huntsville High School 1971. Received her BS degrees from Georgia Tech and Auburn University, MS and PhD from University of Alabama in Huntsville in Mechanical Engineering. Former astronaut who flew on three space shuttle missions as a Mission Specialist and Payload Commander. Began her career at Marshall Space Flight Center as an aerospace engineer, supported major NASA programs including the Hubble Space Telescope and space shuttle redesign. Joined NASA Astronaut Corps in 1987. Spent almost 700 hours in space during her three missions. STS-47 in 1992, STS-60 in 1994 and STS-85 in 1997. Appointed Director of Flight Projects Directorate at MSFC in 2001. Also a pilot who has logged time in propeller, jet and space aircraft.

**Melba Iris Harris**

**Inducted  
in 1991**



An educator, pilot and youth motivator. Spent two decades as public elementary grade teacher in Fort Payne, Alabama. Developed "Fantastic Flight", a unique aviation awareness program designed especially to stimulate and inspire elementary students. This unique dimension to student awareness has made Alabama a pioneer in early childhood aerospace education. Became internationally recognized for her aerospace education efforts. Her "Aerospace Curriculum Guide" published in 1988 has earned many commendations and awards including National Aerospace Educator Of The Year, Christy McCauliff Fellowship, and FAA National Award For Excellence In Education.

**Katherine Stinson**

**Inducted  
in 2001**



Born in Fort Payne, Alabama, one of the earliest aviation pioneers, certificated in 1912. She was the first person to execute a snap roll on top of a loop and the first night skywriter. She was the first woman to execute a loop, to fly air mail, fly alone at

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WE LOOK FORWARD TO YOUR VISIT SOON !!!



# MEMBERSHIP

## When It Comes to Southern Aviation History ... Just Ace It !

### *With a Southern Museum of Flight Membership !*

#### *Yes, I would like to become a member of the Southern Museum of Flight*

Your membership will help the museum continue its work in preserving southern aviation history, restoring historic aircraft and inspiring students to excel in science and technology

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#### **Museum Hours**

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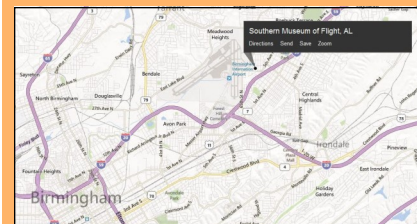
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#### **Website**

[www.southernmuseumofflight.org](http://www.southernmuseumofflight.org)  
A City of Birmingham Museum



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