

**International Forest of Friendship Newsletter
Preparations for 2017 (Our 41th Year)—Flying, Forests, and the Future**

Welcome to this seventh edition of the International Forest of Friendship (www.ifof.org) newsletter, focused on preparations for the Forest's 41st anniversary ceremonies, which will be in Atchison on **June 16-17, 2017 (Fri-Sat)--Save the Date**. This year's theme will be "Flying, Forests and the Future" – emphasizing contributions by younger people (particularly those under 40). The deadline to receive nominations is April 15, 2017. In addition to this year's focus on youth, all those will be welcome who have contributed, or are contributing, to all facets of aviation and aerospace, as they are every year.

The focus on the future reflects the themes that Fay Gillis Wells and Joe Carrigan set for the Forest when it began in 1976. The Forest is a living, growing memorial to the world history of aviation and aerospace that not only remembers the past but also looks to the future.

This newsletter introduces some of the themes we'll explore in the run-up to this year's celebrations: Ongoing contributions to aviation and aerospace by younger people, especially in ways that connect them to the green spaces on the planet, such as links to forestry and energy efficiency; educational initiatives that involve youth in all aspects of aviation and aerospace; and organizations that are helping to shape the future of aviation and aerospace. The notes cover only a fraction of the many contributors who could be cited, and we hope you'll use it as a basis to explore areas of interest. In most cases links are provided to the full articles. Please check them out. We'd welcome suggestions for new candidates and initiatives and to follow up on previous windows of opportunity that have been opened, but not exploited fully.

The newsletter also introduces Barrington Irving who will be our distinguished speaker at the celebrations in June. <https://en.wikipedia.org/wiki/Barrington_Irving>

We hope to see you in Atchison on June 16-17 for the ceremonies.

Leonard Buddenbohm and Lin Wells
Co-Chairmen
Ellen Herr, Vice Chairman

- Contributions to Aviation and Aerospace by Younger People, Especially in Ways that Link Them to the Green Spaces on the Planet
- Educational Initiatives
- People and Organizations Helping to Shape the Future of Aviation and Aerospace
- Distinguished Speaker— Captain Barrington Irving

The rest of the newsletter expands on these categories. This information will be folded into the magazine distributed during the ceremonies in June. Another newsletter will summarize the events of June 16th-17th.

A major positive recent development is that Ellen Herr, of The 99s Paradise Coast Chapter, will be joining the Forest Committee as Vice Chairman. This is part of an effort to link the Forest

more closely back to its 99s roots. The Forest looks forward to closer relationships with the 99s going forward. Another project is working with Venly Partners <www.venly.com> to improve the Forest's social media outreach, and we hope to engage more with individual Facebook pages in the coming months, as well as leveraging TripAdvisor and other channels. Also, there is serious consideration of moving the Forest dates in 2018 so they won't conflict with the Air Race Classic. The 2017 dates already are locked down, but alternatives are possible for 2018. The 2018 Air Race Classic dates are June 15-25, so June 8-9, 2018 or June 29-30 are possibilities. We'd welcome your thoughts. Please pass them to Ellen for consolidation.

Even as the Forest prepares for 2017, we will be working to strengthen the ties forged in 2016 with international partners and the Cosmosphere <<http://cosmo.org>> in Hutchison, KS. We hope to build on the themes of recent years to keep developing partnerships with many other organizations. In addition to activities around Atchison, this could include ties with agriculture-based businesses, as well as other aviation and aerospace organizations in Kansas, Rotary Club activities, etc. Ideas welcome!

Contributions by Younger People to Aviation and Aerospace, Especially in Ways That Link Them to the Green Spaces on the Planet

- Aviation and Aerospace Records
 - **Paige Kassalen.** https://www.aopa.org/news-and-media/all-news/2017/february/01/female-engineer-crewed-for-solar-impulse#.WNMrq_R-Ddc.email

In 2016 Solar Impulse finished the first round-the-world solar flight in history, touching down at airports along its 24,855-mile global journey. Paige Kassalan, a 23-year-old electrical engineer from Pittsburgh, was the first U.S. female engineer and also the youngest member of the 90-person Solar Impulse II team. She was the only American on the ground crew. In addition to engineering work "one of the problems she had to help solve on Solar Impulse's journey was how to keep the ship righted when it slowed for a landing because 'there's not a manual of how to catch the wing of a solar airplane.'" Paige's job was to "catch and cradle the composite wingtip to keep the lengthy airfoil from scraping the ground." This led to her either "sprinting alongside the aircraft's 236-foot-long wing as it landed or gripping it tightly against winds fighting her for lift before takeoff."

Paige learned about the mission through her job at Covestro, whose energy-efficient polyurethane insulation was a key to pilot comfort in an unpressurized cabin at 28,000 feet. She was recently named to Forbes "30 Under 30" Class of 2017 in Energy



Covestro electrical engineer Paige Kassalen. Photo courtesy of Jean Revellard/Rezo

She was with the project for six straight months, beginning in Hawaii about halfway through the flight when Solar Impulse returned to the skies after a lengthy mechanical delay. Kassalen traveled from Hawaii to California, Arizona, Oklahoma, Ohio, Pennsylvania, New York, “and then we crossed the Atlantic to Seville, Spain; Cairo, Egypt; and Abu Dhabi in the Arab Emirates,” where the transcontinental flight ended. Inspired by aviation experiences on the mission, Kassalen has decided to get her pilot’s license. “I feel empowered now and I can’t wait,” she says.

- Awards (including maintenance, R&D, infrastructure, etc.)
 - **Aviation Week Tomorrow’s Leaders.** Each year *Aviation Week* recognizes winners of their Laureate awards. The 2017 winners in the “Tomorrow’s Leaders” category were: Cadet Colonel Young Yuyang Wu, US Air Force Academy; Midshipman First Class Ryan Speir, U.S. Naval Academy; 2/c Cadet David Creswell, U.S. Coast Guard Academy; Cadet Lieutenant Michael Cremins, U.S. Military Academy.
<http://laureates.aviationweek.com/la17/Public/Enter.aspx>



- Young Military Personnel
 - **Lieutenant La’Shanda Holmes, USCG.** U.S. Coast Guard helicopter pilot La’Shanda Holmes defies odds, expectations to break barriers, By Rushawn Walters, Howard University News Service, Feb 14, 2017,
http://www.stlamerican.com/news/local_news/u-s-coast-guard-helicopter-pilot-la-shanda-holmes-defies/article_6055366c-f2c7-11e6-83af-

[f33132d341bf.html?utm_medium=social&utm_source=facebook&utm_campaign=user-share](https://www.facebook.com/la.shanda.holmes/f33132d341bf.html?utm_medium=social&utm_source=facebook&utm_campaign=user-share)



La'Shanda Holmes endured abuse and neglect to later become the first African-American female helicopter pilot for the U.S. Coast Guard. Growing up poor and abandoned in Fayetteville, North Carolina, La'Shanda had no idea where her life would take her, certainly not to a career as a helicopter pilot for the U.S. Coast Guard and a position with NASA. After losing her mother to suicide at age two, Holmes was adopted by her aunt who would later remarry to an abusive man. Due to turmoil within the household, Holmes was put into foster care, only to face more depression, loneliness, abuse and instability. Between her junior and senior year of high school, Holmes said she stayed in a total five homes.

Holmes was a junior in high school when she decided to turn her life around. One of the keys to her success was Linda and Edward Brown, who adopted her at age 17. She still calls them her parents. She graduated from high school at the top of her class and enrolled in 2003 in her dream school, Spelman College. While volunteering at career fair, she spoke to a U.S. Coast Guard recruiter and was inspired by Lt. Jeanie Menze, the first African-American female aviator in the Coast Guard. Holmes decided then she wanted to fly. She joined the Coast Guard in 2003 and completed flight school in 2010 at the age of 27. "The Coast Guard offered me the opportunity of a lifetime," she said. "It's the first time I felt that I had a sense of power to do something with my life." Once graduating from her aviation program, Holmes became the first African-American female helicopter pilot for the Coast Guard.

Today, Holmes, 31, is a lieutenant and in Washington working as a special assistant to the administrator of NASA in a White House fellowship program. She is finishing up a master's degree in administrative leadership and plans to write a book.

- **Lt. Col. Christine Mau, USAF.** In January 2017 the National Aeronautic Association (NAA) announced the award of the 2016 Katherine and Marjorie Stinson Trophy to Lt. Col. Christine A. Mau, a U.S. Air Force pilot
<https://naa.aero/userfiles/files/documents/Press%20Releases/Stinson%20Trophy%202016.pdf>



U.S. Air Force photo Staff Sgt. Marleah Robertson

The Stinson Trophy honors two sisters - Katherine and Marjorie Stinson who were early American pilots. The trophy recognizes a living person for "...an outstanding and enduring contribution to the role of women in the field of aviation, aeronautics, space, or related sciences." Mau is being recognized for "...dedicating over 19 years as an Air Force officer, imparting her wisdom and knowledge to a wide spectrum of Americans interested in aeronautics, and blazing a path for women in aviation."

Given her outstanding work throughout her career, Mau was handpicked as the 33rd Operations Group's deputy commander and selected as the world's first female F-35 pilot. In the summer of 2015, she reported to Eglin Air Force Base in Florida to assume this new high-profile position. In her new role, Mau has gone above and beyond her normal duties, testing modifications to aircrew flight equipment that accommodate gender differences and championing them through the requirements and acquisition processes. She also excels as an instructor pilot in the F-35, training pilots to employ this cutting-edge aircraft. In addition to her normal duties, Lt Col Mau has become a tireless advocate for the U.S. Air Force and specifically for women in aviation. Recently, she starred in "Journey to Normal: Women of War Come Home," and is also involved with the Women's Air Service Pilots (WASP), FlyGirls, and the Girl Scouts of America.

- [Links to Forestry and the Green Spaces on the Planet](#)
 - **Ashley Taylor, Wildland Firefighter** <from 99 News Feb 2016-17>



Ashley is all smiles after her first solo. A smokejumper exits the Twin Otter
Right photo: U.S. Government photo from Ashley Taylor.

Ashley obtained her private pilot certificate in May 2016. She credits her “amazing support system and pilot mentors” and is “proud to say, I now have a license to learn.” She has been working with the U.S. Forest Service as a wildland firefighter since her junior year in college. After graduating from college with a business degree, she chose to pursue wildland fire as a career. Being a wildland firefighter involves work in rugged terrain, under inclement weather, in high stress situations, typically 16 hours a day, and sometimes for two-to-three weeks without a day off.... It requires a high level of physical fitness, nutrition and mental stamina.

Wildland fire personnel can reach a fire by road in an engine or truck, landing in a landing zone with a helicopter, rappelling out of a helicopter into a safe location or by jumping from an airplane and parachuting into a safe jump spot.... Ashley has used most of these methods of transport, but her love for flying is what pushed her in 2012 to become a smokejumper, one of the most elite groups in the world of wildland fire.

After three years as a smokejumper, she decided to take the controls of an airplane and got her private pilot certificate. She now wants to become a smokejumper pilot and “fill a unique roll that combines firefighter experience and pilot training.” In the fall of 2014, she received the Amelia Earhart Memorial Scholarship “Fly Now Award” through The Ninety-Nines and is very grateful for their support, the encouragement of her mentor Gene Nora Jessen, her amazing flight instructors and many others within her field of work and aviation.

- Others

- **Captain Sharifah Czarena Surainy Syed Hashim:**

<<http://akmalamiraa.blogspot.com/2012/11/congratulations-captain.html>>; See also <<http://www.telegraph.co.uk/women/work/meet-royal-bruneis-first-female-pilot-crew--who-land-planes-in/>>



In November 2012 Captain Sharifah Czarena Surainy Syed Hashim became not only the first female captain in Royal Brunei Airlines (RB), but also in any flag carrier airline in Southeast Asia. In a media interview, Captain Sharifah Czarena Surainy said: "Being a pilot, people normally see it as being a male dominant occupation. As a woman, a Bruneian woman, it is such a great achievement." "It's really showing the younger

generation of the girls especially that whatever they dream of, they can achieve it," she added.

She began her aviation career as a cadet pilot in 2003 in the U.K. After flying in Europe as a junior First Officer she returned to Brunei in 2006 to join RB as a First Officer on the B767-300ER. Promoted to Senior First Officer soon after, she completed the final stage in the command training process on November 6, 2012. Currently, RB has six female pilots in active service. To mark Brunei's National Day in 2017, which celebrates the country's independence, Captain Czarena Hashim, Senior First Officer Dk Nadiah Pg Khashiem and Senior First Officer Sariana Nordin flew flight BI081, a Boeing 787 Dreamliner, to Jeddah, Saudi Arabia on February 23, 2017.

Captain Czarena Hashim regularly visits schools to give career talks. In 2016 she was surprised to find a handwritten letter from a four-year-old English girl who lives in Dubai. "My daddy told me you fly planes," it read. "I would like to fly one day too, just like you." She probably will. Senior First Officer Khashiem originally wanted to be an astronaut, and her father encouraged her to pursue a flying career. Senior first officer Nordin is promoting aviation with her two daughters

- **Kate McWilliams:** 26-year-old airline captain.
<http://www.cnn.com/2016/09/26/business/woman-26-easyjet-youngest-pilot-captain/>
(CNN-Sept 26, 2016)



Captain Kate McWilliams and co-pilot Luke Elsworth. Photo CNN

Their combined ages are just 45. But that didn't stop 26-year-old captain Kate McWilliams and her 19-year-old co-pilot Luke Elsworth from flying hundreds of passengers to their destinations in September 2016. The young pilots manned a flight from London to Malta, after McWilliams earlier had passed a course ascending to the rank of captain. Their employer, the British carrier Easyjet, believes McWilliams has become the world's youngest commercial airline captain -- with co-pilot Elsworth also one of the country's youngest co-pilots. "I would strongly urge females interested in aviation to think about pursuing a career as a pilot, and any existing pilots to push themselves to become a captain," said McWilliams, who first became interested in planes after attending an air show at age four.

- **Cayla McLeod.** <https://www.aopa.org/news-and-media/all-news/2017/february/21/aviation-wristband-honors-quiet-giant-alexander#.WNMp9PeE-ul.email>



Student pilot Cayla McLeod with her instructor and mentor Ron Alexander. The aviation-inspired wristbands that help celebrate his life. Photos from Cayla McLeod.

An aviation-inspired rubber wristband created by a student pilot honors Ron Alexander, a “quiet giant” of aviation, who died in a November 2016 aircraft accident near his beloved Peach State Aerodrome in Georgia. Alexander introduced Cayla McLeod to aviation in 2015. Now she is paying it forward with a gesture she hopes will help hundreds of future pilots attending Alexander’s Candler Field Museum Youth Aviation Program. The 17-year-old who thought of the retired Delta Airlines pilot and entrepreneur “as a grandfather in many ways” is helping to keep his dream alive. McLeod designed the \$10 wearable memorabilia to honor Alexander and his treasured 1917 Curtiss JN-4 Jenny. She selected sky blue, gray, and light brown, with the inscription, “In Loving Memory of Ron Alexander,” and flanked it with two aircraft aimed at the sky. They are available online from Aircraft Spruce & Specialty Co. or at the airfield’s Barnstormer’s Grill. Sales of the wristbands honoring Alexander have generated \$2,500, and McLeod others were sold at Alexander’s Celebration of Life March 25.

Alexander was as an accomplished businessman and aviator. He launched a series of traveling hands-on workshops for aircraft restorers, started an aviation supply company and other business interests that were later purchased by Aircraft Spruce, and established a composite aircraft repair facility. AOPA Editor at Large Dave Hirschman praised Alexander as a “quiet giant” of aviation because he did not draw a lot of attention to himself. The Indiana native and war hero was known for sharing the joy of aviation with others and could often be spotted giving rides in his polished Douglas DC-3 based at the Aerodrome’s grass field south of Atlanta. After an EAA Young Eagles flight at Peach State two years ago, McLeod said she “fell in love” with aviation and stumbled across Alexander’s “very active youth program” at the Candler Field Museum. As a result of his coaching, the University of West Georgia freshman is studying communications while she continues flight training.

Educational Initiatives

- Higher Education:
 - **Experimental Aircraft Association (EAA).** The EAA has put together a list of over 100 colleges and universities in the U.S., Canada and the U.K. that offer aviation-related programs. These are at: <https://www.eaa.org/en/ea/aviation-education-and-resources/ea-youth-education/aviation-schools-colleges-and-programs>
- Training
 - There also are a variety of **training programs** such as the National Aviation Academy in Florida and Mass: <http://www.naa.edu/aircraft-technician-tb/?gclid=CJ7Z6ZmJ99ICFUihSwodEbEMCA>, and the Aviation Institute of Maintenance in 11 locations, <http://www.aviationmaintenance.edu/google-aircraft-school/>
- Aviation Secondary Schools:
 - There are several secondary schools with an aviation focus, such as the West Michigan Aviation Academy <http://www.westmichiganaviation.org/about>, and the Aviation High School, 9229 East Marginal Way South, Tukwila, WA 98108, 206 631-7200
- STEM/STEAM education:
 - **AOPA.** The goal of AOPA's You Can Fly High School Initiative is to help build and sustain aviation-based STEM programs and provide a quality workforce to the aviation industry.
 - **Cosmosphere:** In addition to activities at the remarkable main facility in Hutchison, KS <<http://cosmo.org/about/>>, the Cosmosphere also runs a series of Space Camps. In 2017 there will be four day camps (3-5days each) for 2-6th graders, and 11 overnight camps (5-6 days each) for 6th grade through adults (<http://cosmo.org/explore/camps>). In 2016 the Cosmosphere had a special camp to give children of migrant workers a chance to fly http://www.hutchnews.com/space/cosmosphere/cosmosphere-camp-offers-sons-and-daughters-of-migrant-workers-a/article_1ff5a55b-b6b0-5133-a4da-6d0b226c1756.html
 - **EAA Aviation Camps and Overnights:** EAA runs a series of camps for middle and high-school aged students every summer. <<https://www.eaa.org/en/ea/aviation-education-and-resources/ea-youth-education/ea-aviation-and-flight-summer-camps>>
- Brooke Owens Fellowship Program <<http://www.brookeowensfellowship.org/about/>> The Brooke Owens Fellowship Program offers paid internships at leading aviation and space companies and organizations for passionate, exceptional women seeking their undergraduate degree. Created to honor the legacy of a beloved space industry pioneer and accomplished pilot, Dawn Brooke Owens (1980 – 2016), the Brooke Owens Fellowship Program is designed to serve both as an inspiration and as a career boost to

capable young women who, like Brooke, aspire to explore our sky and stars, to shake up the aerospace industry, and to help their fellow men and women here on planet Earth.

People and Organizations Helping to Shape the Future of Aviation and Aerospace

- **Government Organizations (NASA, ESA, FAA, etc.)**
 - **National Aeronautics and Space Administration (NASA)**
https://www.nasa.gov/offices/education/programs/gen_overview.html
 NASA has a longtime commitment to excellence in science, technology, engineering and mathematics education to ensure that the next generation of Americans can accept the full measure of their roles and responsibilities in shaping the future. NASA will continue “investing in the Nation’s education programs and supporting the country’s educators who play a key role in preparing, inspiring, exciting, encouraging, and nurturing the young minds of today who will be the workforce of tomorrow.”

 NASA has three major education goals:
 - Strengthening NASA and the Nation's future workforce
 - Attracting and retaining students in science, technology, engineering and mathematics, or STEM, disciplines
 - Engaging Americans in NASA's mission
 “NASA's commitment to education places special emphasis on these goals by increasing elementary and secondary education participation in NASA projects; enhancing higher education capability in STEM disciplines; increasing participation by underrepresented and underserved communities; expanding e-Education; and expanding NASA's participation with the informal education community.” Most NASA support to higher education is delivered through NASA’s Mission Directorates. NASA also has “Pathways Programs” for interns, recent graduates, and Presidential Management Fellows.
 - **European Space Agency (ESA):**
<http://www.esa.int/Education/ESA> at the forefront of space education

 Since ESA was created, more than 30 years ago, one of its most important tasks has been to inform the public about the latest advances and discoveries in the space field, and to develop programs that will inspire young people to pursue careers in science and technology.

 ESA's Education Office is responsible for the Agency’s corporate education program bringing together young people from many different nations. The aim is to help young Europeans, aged from 6 to 28, to gain and maintain an interest in science and technology, with the long-term objectives of contributing towards the creation of a knowledge-based society and ensuring the existence of a qualified workforce for the Agency that will ensure Europe’s continued leadership in space activities. This is achieved by organizing various activities designed for specific age groups, keeping the educational community informed about these developments, and providing

inspirational materials that assist teachers and students with the learning process.

Today, ESA's Education Office is responsible for numerous activities that can be broadly subdivided into the following categories:

- **Hands-on projects** for students including designing and developing small satellites and experiments that can be flown on various microgravity platforms, such as balloons, sounding rockets, parabolic flights and CubeSats.
- **Support to teachers**, aiming to establish contact / resource centres which are manned by education experts and integrated into national educational systems and networks. A variety of educational materials has also been developed for students of various ages.
- **International cooperation activities**, such as the Global Educational Network for Satellite Operations (GENSO) project and support to student participation in international activities such as the NASA Academy.
- **Opportunities for students**, such as student participation in conferences and workshops
- **Outreach initiatives**, bridging between ESA projects and students and teachers. These activities include the production of this website and the [ESA Kids website](#). ESA's Education Office can be contacted at: education@esa.int.

- **Federal Aviation Administration (FAA)**

FAA training materials range from general pilot training, <https://www.faa.gov/pilots/training/>, to a pilot schools locator, to air carrier training and training research.

- Private Organizations. A number of private organizations, such as Aircraft Owners and Pilots Association (AOPA), Experimental Aircraft Association (EAA), The Ninety-Nines, and the American Institute of Aeronautics and Astronautics (AIAA) provide scholarships. In addition, foundations like the Lightspeed Aviation Foundation, The UPS Foundation, and others support scholarships.
 - **AOPA** The goal of AOPA's **You Can Fly High School Initiative** is to help build and sustain aviation-based STEM programs and provide a quality workforce to the aviation industry.
 - **EAA**. <https://www.eaa.org/en/eea/aviation-education-and-resources/eea-youth-education/eea-young-eagles-program>
 Since the EAA Young Eagles flight was founded in 1992, the Young Eagles program has dedicated nearly 25 years to giving youth ages 8–17 their first free ride in an airplane. It's the only program of its kind, with the sole mission to introduce and inspire kids in the world of aviation. Today, the Young Eagles program has flown over 2 million kids with the help of EAA's network of volunteer pilots and ground volunteers. They have reach their goal and celebrated the 2 millionth Young Eagle flown during AirVenture Oshkosh 2016. Young Eagles offers every child, tween, and teen the chance to experience the Spirit of Aviation™.



A Young Eagle on her flight

- **The Ninety-Nines.** The 99s Amelia Earhart Memorial Scholarship & Awards program <https://www.ninety-nines.org/scholarships.htm#Winners> Since 1940 the program has helped deserving members improve their aviation proficiency and further their aviation goals. Today the Amelia Earhart Memorial Scholarship Fund exceeds \$5 million and provides:
 - Amelia Earhart Memorial Scholarships for licensed pilot members to advance in training and education in aviation and aerospace, including scholarships to complete additional pilot certificates and ratings, jet type ratings, college degrees, technical training, an Emergency Maneuver Training Scholarship established in memory of 99 member Vicki Cruse and the Kitty Houghton Scholarship for pilot training in developing countries.
 - Research Scholar Grants to add to the world's knowledge of women in aviation and aerospace.
 - FLY NOW Awards of up to \$6,000 towards completion of the recreational pilot, sport pilot, or private pilot certificate.
- 16 were awarded in 2016, with a total of more than 700 since 1940. Sections and chapters and other organizations also offer scholarships.
- One example (there are many, many more) of how a chapter scholarship was put to good use is shown by Saki Chen's fulfillment of a life-long dream to become the first Chinese woman to circumnavigate the globe in a single engine piston airplane. This is described by Janice Pelletti, Southeast Section, in the Jan/Feb 2017 edition of the *99 News*. Saki's journey began in 2012 when she came to New York City for her second law degree. With the help of a 99s scholarship and support from fellow New Jersey Chapter members, she earned her private pilot certificate in 2013. After refining her instrument and international flying skills, and an extensive search for an airplane, and with the help of 99 student pilot Amanda Lincoln, she connected with Larry Rohl and his son Richard, who run a flight school and charter company in Cleveland, Ohio who agreed to lease their A36 Bonanza to her. Larry, a CFI, Richard, with maintenance expertise, and Amanda, also a 99, all agreed to accompany Saki and help share in the expenses.



Amanda Lincoln, Laurence Rohl, Saki Chen, Richard Rohl

Overcoming many logistic, bureaucratic, and diplomatic challenges, her efforts were rewarded on September 2, 2016, when Saki's Bonanza became the very first single-engine piston airplane, and one piloted by a woman, to land in China for the purpose of circumnavigation. As she said: "On the day I entered China airspace, all the effort was paid back. It was my first time to speak with air traffic control in Chinese, and as pilot in command." Her trip lasted 58 days, starting and ending in Cleveland, Ohio, and covering 21,119 nm before arriving home on September 27, 2016. Saki says: "My next goal is to promote general aviation culture in China and encourage more females to look into and study flying."

- **The American Institute of Aeronautics and Astronautics (AIAA).** AIAA www.aiaa.org offers a wide range of learning, career enhancement, and employment opportunities for the aerospace community. Their programs engage each generation of aerospace engineers. Beginning with STEM learning opportunities for K-12 students, AIAA provides the tools and resources necessary for educators and students to take their understanding of aerospace to the next level. Members of AIAA's growing community of university students are invited to take part in design competitions, scholarships, internships, and even discounts on textbooks. Additionally, aerospace professionals can participate in one of AIAA's many conferences, continuing education courses, and career placement services fostering a focus on career enhancement and professional growth. AIAA's commitment to education provides a wealth of opportunities for all of its members--apply for a scholarship, look for a job, publish a book.
- **The Lightspeed Aviation Foundation** makes "Pilots Choices Award" grants in support of other scholarship programs, including to the Ninety-Nines, Pilots N Paws, Civil Air Patrol, New Tribes Mission Aviation, and JAARS AE Scholarships <http://www.lightspeedaviationfoundation.org/>
- **The United Parcel Service (UPS) Foundation** <https://sustainability.ups.com/the-ups-foundation/> has supported the Ninety-Nines Scholarships for a number of years. The

UPS Foundation’s mission is to “help build stronger, safer and more resilient communities around the world.”

Distinguished Speaker

- **Barrington Irving**, Captain Barrington Irving has traveled to 50 countries, conducted more than 30 STEM expeditions, and successfully challenged middle school students to build a car faster than a Ferrari 430 and then high schoolers to build a plane he flew on its test flight. In 2007, he set two world records—at age 23—as the youngest person and first black pilot to fly solo around the world. He has a passion to explore, inspire, and educate others.

Now 33, Barrington has developed a Flying Classroom curriculum (flyingclassroom.com) that transforms the way students learn STEM: in following his global expeditions, they engage in problem-solving activities that enable them to overcome new challenges.

Before founding the Flying Classroom, Barrington created a nonprofit, Experience Aviation, which offers hands-on, STEM-based programs and career guidance to middle and high school students in Florida, Texas, and Georgia.

Born in Kingston, Jamaica and brought up in inner-city Miami, Barrington was inspired to pursue aviation at age 15, when a Jamaican airline pilot offered to mentor him. He rejected college football scholarships to pursue a career in STEM and never looked back.

A Magna Cum Laude graduate of Florida Memorial University, Barrington was the recipient of a Congressional Resolution acknowledging his pioneering work in aviation education. He received the Guinness World Record as the youngest person to fly solo around the world and was named a National Geographic Emerging Explorer in 2012.



Barrington Irving and a Flying Classroom Student