



Spring
2014

NSM NEWS

The National Soaring Museum preserves and presents the heritage of motorless flight, and promotes through education, a greater knowledge of soaring, aeronautics, and related physical sciences for everyone.

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National Soaring Museum

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Closed Thanksgiving, Christmas Eve and Day, and New Years Eve and Day

NSM News is a quarterly publication by the National Soaring Museum for all Members and Friends of the Museum.

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Kaye Norton*



Jan and Mai Scott visited the National Soaring Museum from Norway. Jan is a former President and Trustee of the Museum, and helped organize the first IVSM with Paul Schweizer in 1995.

"Glider pilot heaven!" - Linda and Richard from Scotland, UK

Spring Events at the NSM

March 21 brought a beautiful spring evening and A Soaring Taste of Wine and Chocolate to the National Soaring Museum. The wine tasting fundraiser was held on a Friday evening with the help of local businesses. GCP Liquors and Wines and the Elmira Distributing Company served a selection of wines, paired with complimentary desserts.

Helping with the festive atmosphere were The Source, Pampered Chef, Dipitty Do Dah, and Wine & Design. Specialty vendors offered their unique products, from chocolate-chili to beer and wine flavored sorbets. TJ the DJ kept the night lively with music.

All About You Photography was also at the event with a photobooth, which many guests took advantage of. Other supporters were Ray Jewelers, Quicker Printer, Vision Hotels, and Ageless Integrative Spa. Panera, Culligan, and Serendipity of Ithaca all provided delicious treats for guests at the event.

Perhaps the most exciting event of the night was the gift basket raffle. Prizes were donated from long-time supporters, including the Clemens Center, TLC Limo, Willow Creek Golf Course, Harris Hill Amusement Park, the Christmas House, and Oldies But Goodies.

Also during March, the NSM hosted the Aperture Ace-ettes photography show, organized by local artist Rita Rhodes. Throughout the month, more than fifty photos overlooked the Johnson



Rita Rhodes hangs photos for the Aperture Ace-ettes show.

Gallery, each one taken by a local female photographer. There was a separate group show for photos with the theme of flight, one of which would receive a cash award. The opening reception was held on March 1, and the closing reception was held on March 29.

Events like “A Soaring Taste of Wine and Chocolate” and the Aperture Ace-ettes help the Museum connect to the local community and reach a wider audience that may not have normally visited. Not everyone who walks through our doors will be a soaring enthusiast, but everyone should be able to enjoy the important pieces of aviation history in the Museum. ■



Quentin and Kylee Kiah of Wine and Design



Set-up for “A Soaring Taste of Wine and Chocolate”

Schweizer Homecoming

In cooperation with the Harris Hill Soaring Corporation and K&L Soaring, the NSM will host a celebration of Schweizer Aircraft Corporation, America's historic leader in motorless aviation, this June 26, 27, and 28 at and near the museum on Harris Hill.

2014 is the 75th anniversary of the founding of Schweizer Aircraft. In 1939 brothers Ernest and Paul Schweizer, who had designed and built gliders during the 1930s, decided to bring their business to the vicinity of Harris Hill. Strongly encouraged by Elmira's aviation-minded business leaders, they located the company in an old knitting mill in Elmira Heights. With youngest brother Bill joining later after college, the company remained under the control of the family until it was sold to Sikorsky in 2004.

At the dawn of the turbulent 1940s, the approach of war inspired the Army to buy two-place training gliders. The brothers relocated the company from the knitting mill to a purpose-built factory located adjacent to the public airport in Big Flats. In the six subsequent decades before the firm was sold, the brothers, their children, and hundreds of employees built gliders, motorgliders, crop dusters, early "stealth" aircraft for use in combat, parts of other aircraft as subcontractors to some of the biggest names in American aviation manufacturing, and even some amphibian aircraft.



Ernie Schweizer and the SGU 1-6



While so engaged, the Schweizers offered good paying jobs to hundreds of workers, and the plant expanded. In an era when upstate New York was a busy world of manufacturing everything from steel to glass to cameras to air conditioners to electric motors, Schweizer Aircraft was a vital part of the region's economy. All during the latter half of the 20th Century it was commonplace to see their gliders soaring along the ridge south of the four-lane highway that ran through the Southern Tier of New York. It was equally common to hear the crackling growl of the nine-cylinder Pratt and Whitney turning the huge McCauley two-bladed props on the yellow and gray Ag Cat crop dusters as they headed off to customers across the country. Schweizer built nearly 2,500 Ag Cats under contract to Grumman Corporation and briefly owned the design completely. (For purists reading this article, yes, there were other powerplants hung on the front of the Ag Cat, including Jacobs and Continental radials ranging from 220 to 600 horsepower, and there were other props, too. There was a turboprop Ag Cat).

All throughout the sunny summers in upstate New York, Schweizer gliders would soar over the hills and valleys under the control of a long series of pilots who ran and flew at the Schweizer Soaring School. During its heyday, the school taught hundreds of pilots each season.

(...continued on page 7)

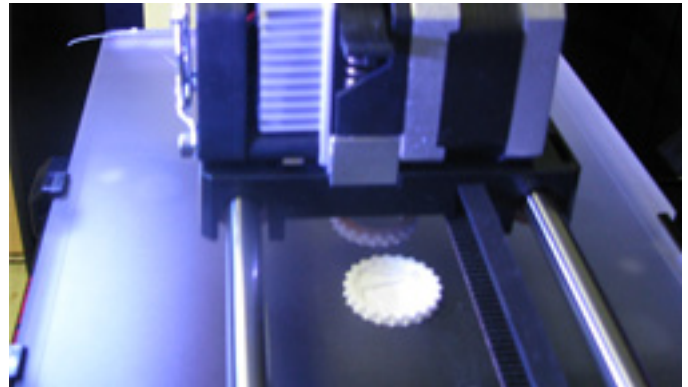
3D Printer Arrives at NSM

It's an oblong box, about two feet long on its longest side, mostly empty space enclosed by flat black panels made of resin. There is a cable running to a small device that looks like the print head from the office Epson mounted on rails above a platform that rides a threaded drive. It's a three-dimensional printer, and it's ours.

It's a "Replicator 2", built and sold by MakerBot of Brooklyn, New York, whose slogan is "To bring your products to life". As you might expect when advertising a machine as expensive as this, MakerBot describes its purpose in business terms--i.e., it's for "rapid prototyping". This is not entirely outside the scope of our educational and business plan for the machine. We envision a day when our students will be able to take one of the aircraft model designs that are available in the "cloud", change it in ways that they feel good about, and then make it and take it home with them as a souvenir of their time in the Museum's educational program. Importantly, we know that these gliders will sit on the desks and dressers students have in their homes and they will remind them about what gliders are, what aviation is all about, how science and technology support soaring, and how the pioneers in our sport struggled and *succeeded* in making their designs work--in other words, bringing their products to life.

We bought the printer in late winter with donations from a local bank and from Hilliard Corporation, the century-old manufacturer of motion products and environmental protection devices, of which our trustee and treasurer, Jan van den Blink, is chairman. The donors agreed with our proposition that having a three-dimensional printer at the National Soaring Museum would add to our capabilities as an educational institution. In other words, the kids who visit the museum would learn something really cool with it.

Traditionally, the Museum's teachers have given their students plenty of opportunities for "hands on" learning. Students make gliders and helicopters out of paper, for example, and work with adults in our own restoration shop to build rib wings out of basswood, nails, and glue. We will continue to offer these activities, but 3D printing offers a very modern and therefore intriguing experience, as well as one that allows



A nut and bolt being printed by the Replicator 2.

students to let their creativity flow and their imaginations flourish.

The Replicator 2 is not one of the new "mini" printers that seem to be appearing everywhere at a rate rivaling that of Motorola cell phones twenty years ago. Instead, it is a professional unit intended to print at a resolution as fine as 100 microns--0.00394 inches, or about the width of a hair. It is so well designed and built that it earned Popular Mechanics magazine's "Product of the Year" award. We are confident it will provide years of service.

Eventually, we would like a second one, as these printers are not known for being speedy in their work. We think that more and more students, and eventually visitors to the museum, will want to see the printer work and take home the products it makes. When they do, we are sure they will remember the National Soaring Museum, an important educational institution for our sport and our community. ■



The completed nut and bolt.

Winter Fun Camp

A week off from school usually means a vacation for students, but for parents, it can mean searching for a babysitter or daycare, or even staying home from work to watch their children. When a week-long winter break rolled around this February, the National Soaring Museum hosted Winter Fun Camp to provide a safe, fun, and educational environment for students to spend the week. This five-day camp was open to students aged nine to twelve.

Each day of camp covered a different subject as it related to aviation and aerospace, reinforced with a hands-on lesson. The camp also featured two guest speakers: WETM Meteorologist Chip Maxham, and Dennis O'Connell of the Elmira-Corning Astronomical Society. Some of the campers' favorite activities included making foam plate gliders with elevons and a rudder, testing out their piloting skills using the museum's flight simulators, and making "balloon rockets" to demonstrate thrust. While the camp this year was small, the children were all interested and engaged in what they were learning. Two campers said they wanted to be pilots when they grew up, and many expressed an interest in returning next year.

The students enjoyed their time at Winter Fun Camp this year and we hope to see many more faces, both new and returning, next year. ■



Astronomer Dennis O'Connell demonstrates a model black hole to campers.

Upcoming Summer Camps



An ECAC camper builds her model rocket.

Every summer, students gather at the National Soaring Museum to learn about flight at the Eileen Collins Aerospace Camp (ECAC). On July 7, ECAC will open for its eighteenth year, and camp slots are already being filled. This year, ECAC will feature new activities to keep camp fresh for returning campers. For the first time, students will be able to test their design skills using our new 3D printer to create a small glider of their own to keep. There will also be a greater focus on math this year when students use the Sector 33 air traffic control simulator. Old favorites will be returning as well, such as a visit to the Spacecraft Planetary Imaging Facility in Ithaca and a return to the Rochester Challenger Center for a simulated "Mission to Mars", and, of course, a glider ride above Harris Hill.

In addition to ECAC, the NSM has partnered with GST BOCES and the Summer of Innovation to offer "An Introduction to Summer Soaring" for the second year. During the Summer of Innovation, a variety of educational organizations across the Southern Tier offer programs for children and young adults that focus on science, technology, engineering, and math. "An Introduction to Summer Soaring" is a week-long camp for boys and girls ages eight to twelve. Beginning on July 28, campers will learn about motorless aviation, meteorology, and glider design through games, experiments, and model building. To cap off the week, every student will be able to experience flight first-hand in a glider ride.

This summer will be filled with activity and we hope for another fun and successful year! ■

Women in Aviation International Conference

By Kaye Norton

This March, I was fortunate enough to leave the cold weather behind and travel to Orlando, Florida for the 25th annual Women in Aviation International conference. Over 4,500 attendees came from around the world and all fifty states. The conference was filled with workshops, education sessions, trips to the bustling exhibition hall, and plenty of networking. Many attendees were surprised when I talked about gliders and motorless flight. Some told stories of their own experiences with sailplanes, and others listened with interest when they learned a few new facts about gliders.

The seminars I attended largely focused on aviation education. Many of the presenters opened their sessions with a reminder of the science, technology, engineering and mathematics (STEM) crisis that the United States and many other countries currently face. Essentially, more jobs in STEM fields are being created and will need to be filled, but currently not enough students are graduating with degrees in these fields to do so. One of the best ways to combat this is to get students involved in aviation and STEM at a young age, and encourage them to continue that education as they grow.

Presenters Drs. Carolina Anderson and Marti Klemm, professors at Embry-Riddle Aeronautical University, learned to fly in gliders at a young age and encouraged youth with an interest in aviation to do likewise. According to Dr. Klemm, gliders help adolescents improve rudder and stick skills, and encourage teamwork and a sense of community. They listed locations in the United States where youth could learn to pilot gliders, and first among them was Harris Hill. The Harris Hill Junior organization in particular was praised. "It's a fantastic operation and one of the best soaring locations," said Dr. Anderson.

While the education sessions were fascinating and gave me plenty of new ideas for the Museum's educational programs, they were not the only things to be excited about at the conference. I was able to meet women from around the world and even some aviation heroes. I met four of the Women Airservice Pilots (WASP). During World War II,

the WASP became the first women to fly American military aircraft. Their duties included ferrying planes and towing targets for soldiers to use for training with anti-aircraft artillery. They shared stories of their time serving during the war and experiences after the WASP were disbanded in 1944. They also talked about their battle for recognition as veterans in the 1970s, and how they were finally honored at the Rose Bowl Parade this January. "Most women would not attempt what I did," said WASP Florence Mascot. The WASP helped pave the way for women in aviation in the United States, and with so many women working in aerospace fields that had once been barred to them, the WASP's legacy was clear at the conference.

However, the highlight of the conference for me was the luncheon, where Col. Eileen Collins was the keynote speaker. In her speech, she talked not only about space flight and working for NASA, but also about growing up in Elmira and watching gliders soar on Harris Hill. Along with being the newest director for the Eileen Collins Aerospace Camp, I have admired Col. Collins for many years, and it was a privilege to be able to introduce myself in person and briefly speak with her. Altogether, the conference was a wonderful experience that I will remember for years to come. ■



WASP Florence Mascot and Education Service Coordinator Kaye Norton

(...continued from page 3.)

The little log cabin amid the pines became the headquarters of one of the greatest instructional enterprises in the history of the sport in America. Flying trainers that ranged from the 2-8 to the 2-33, the school taught flying to some of the best known names in soaring, and it only ceased operation in recent years.

It is for the purpose of celebrating the Schweizer Aircraft Corporation that the Museum and its partners are calling together Schweizer owners and pilots. The schedule that weekend calls for a banquet on Thursday night, a picnic at the Harris Hill Youth Camp on Friday night and a gathering at K&L Soaring in Cayuta, NY on Saturday night. Watch the Soaring Museum's website (www.soaringmuseum.org) for more information, or call us at 607-734-3128. ■

Easy Donating Online

You can do the National Soaring Museum a little more financial good when you shop online using one of three services with which the Museum is registered: AmazonSmile, Goodsearch/Goodshop, and Shop for Museums. Although the rules, procedures, and benefits vary among these services, in general, what happens is this: when you go through one of these services to shop online, a portion of the price you pay for the item you buy is donated to the Museum. Goodsearch makes a small donation each time you use its search engine function. If you are an avid online shopper, all the better! Please read the information page on each of the websites so you feel good about the security arrangements and the portion that is donated:

www.smile.amazon.com

www.goodsearch.com

www.goodsearch.com/goodshop

www.shopformuseums.com

Paypal, on the other hand, is the nationwide system through which many people pay for online purchases. You can also use Paypal to donate to the Museum. You can find a "donate" button on our webpage, www.soaringmuseum.org

As always--thanks very much for making the effort to support the NSM. ■



The Schweizer Manufacturing Plant

2014 Wish List

Periodically, we like to invite our readers to give to the Museum for a specific purpose of their choice, usually to help buy something we can't justify with our limited resources, but which would be nice. It is our "Wish List" and this spring we are offering the following:

Three new donation collection boxes. This will increase the number of boxes and replace the existing bare wooden control surface box, which is damaged and has jagged edges. Estimated cost around \$900.

Upgrades to and expansions of our new three-dimensional printer suite within our education department. If there is a downside to these printers, it is that they are not fast. Because we want to have our students use the printers to make their own designs, it would be useful to allow two students to take part simultaneously. 3D printers cost about \$2,500.

Flooring for our restoration shop with a hangar-quality non-slip epoxy in order not only to give our shop a professional appearance, but also to mandate a thorough cleaning and reorganization this summer. There are many different floor treatment processes. Considering our shop floor covers 2000 sq. feet or so, the estimated cost of applying the flooring is in the range of \$6,000.

A vehicle, such as a van or pickup truck, to enable us to pull glider trailers to locations both near and far to teach about soaring, helping to fulfill our education obligation, market the museum, and encourage membership. Leasing a vehicle and paying all expenses would cost around \$6,000 a year. ■

Save the Date!

Upcoming Events at the National Soaring Museum

Girls Soar with Science - Science Fair May 3

Schweizer Homecoming

June 26 - 28

Eileen Collins Aerospace Camp

July 7 - 11 (Boys)

July 13 - 18 (Girls)

Introduction to Summer Soaring

July 28 - August 1

Community Soaring Day

September 13

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