



HILLER AVIATION MUSEUM

601 Skyway Road, San Carlos, California 94070 www.hiller.org

Non-Profit
Organization
US POSTAGE PAID
San Carlos, CA
PERMIT No. 96

Join Now!

Senior (age 65+) \$50

Unlimited admission for you + 2 guest passes.

Individual \$65

Unlimited admission for you + 2 guest passes.

Family \$90

Unlimited admission for 2 named adults and up to 4 children (17 & under) + discounts on Aviation Camp.

Pioneer \$125

Family Membership benefits + an additional card for a named member (ideal for caregivers) and 2 guest passes.

Pilot \$275

Family Membership benefits with a total of 3 guest passes + 8 FMX Flight Simulator passes and 50% off additional FMX tickets.

Barnstormer \$550 • Adventurer \$1,000

Pilot Membership benefits with a total of 4 guest passes + 10% off Museum Rental and Birthday Parties.

Explorer \$2,500 • Navigator \$5,000

Pilot Membership benefits with a total of 8 guest passes + 15% off Museum Rental and Birthday Parties.

Aviator \$10,000

Pilot Membership benefits with a total of 12 guest passes + 25% off Museum Rental and Birthday Parties and a Hiller Aviation Museum jacket.

Annual Membership Application

Or join online at www.hiller.org/member

I want to be a member of Hiller Aviation Museum in the following category:

- | | |
|--|---|
| <input type="checkbox"/> Senior (65+) \$50 | <input type="checkbox"/> Barnstormer \$550 |
| <input type="checkbox"/> Individual \$65 | <input type="checkbox"/> Adventurer \$1,000 |
| <input type="checkbox"/> Family \$90 | <input type="checkbox"/> Explorer \$2,500 |
| <input type="checkbox"/> Pioneer \$125 | <input type="checkbox"/> Navigator \$5,000 |
| <input type="checkbox"/> Pilot \$275 | <input type="checkbox"/> Aviator \$10,000 |

- New Member Annual Renewal

Primary Adult Member: _____

Second Adult Member: _____
(Family Memberships and up)

Third Adult Member: _____
(Pioneer Memberships only)

Address: _____ City: _____

State: _____ Zip: _____ Daytime Phone: _____

Email: _____

This is a gift membership from: _____

Payment Amount: _____ VISA MC AMEX

Card #: _____ Exp. Date: _____

CSC: _____ Print Name on Card: _____

Signature _____

SUPPORT THE MUSEUM!

DONATE YOUR CAR, TRUCK, RV, OR BOAT



CALL TOLL FREE 1-888-205-3420

Or call Development Office at
650-654-0200 x203
Tax Deductible Gift

**AN AVIATOR'S PARADISE!
VISIT OUR GIFT SHOP**
Gift Certificates available!

Thank you for your support.

Please make checks payable to
Hiller Aviation Museum
601 Skyway Rd, San Carlos, CA 94070





BRIEFINGS



March - May 2020

HILLER AVIATION MUSEUM WHERE INSPIRATION TAKES FLIGHT

MULTIROLE ROBOTS MISSIONS FOR MECHANIZED FLIGHT

In their infancy, flying machines of all sorts have long been subjected to questions regarding their utility. Over a century before the Wright Brothers took their first halting flights above the sands of Kitty Hawk, a pair of French brothers – Joseph-Michel and Jacques-Etienne Montgolfier – began a thrilling series of experiments using large hot air balloons in the skies over and around Paris.

*Jacques Charles
Balloon Test, 1783*

At nearly the same time, fellow Frenchman Jacques Charles began experiments involving balloons filled with hydrogen gas. In 1783 famed American statesman and scientist Benjamin Franklin observed an early flight amid a crowd of enthusiastic Parisians, and was asked by another observer what use the new invention could possibly be good for. “What good is a newborn baby?” Franklin allegedly replied, confident that the new technology would find no shortage of uses as it developed.

While the hot air balloons of the Montgolfier brothers and hydrogen-lofted craft built by Charles were both soon carrying passengers above the French countryside, the flight witnessed by Franklin on August 27, 1783 was an early test flight with no crew aboard. Flying new aircraft types without a crew became common in the earliest years of flight. Model gliders and airplanes were developed by another enterprising Frenchman, Alphonse Penaud, in 1871. By the end of the 19th century Samuel Langley flew a scale model of his Aerodrome through a large indoor warehouse, while Wilbur and Orville Wright tested their full-scale gliders as tethered kites before advancing to manned flight.

The earliest unmanned aerial vehicles (UAVs) flew without any means of control that could be adjusted in flight, but by the 1930s British and American designers had built aircraft able to be flown remotely for use in aerial gunnery practice. The first operational aircraft of this type built for the Royal Navy’s Fleet Air Arm was the de Havilland DH-82B Queen Bee. The US Navy built similar systems for its own use with aircraft such as the Stearman-Hammond Y-1, dubbing them “drones” in reference to the Queen Bees used on the other side of the Atlantic.

Stearman-Hammond Y-1



Flying Leprechaun!
March 15



Easter Bunny
by helicopter **April 11**



SPRING MODEL TRAIN SHOW
March 29 – April 11



Smithsonian Institution
Affiliations Program

Vertical lift aircraft also soon found use as unpiloted vehicles. During the 1960s, Del Mar Aircraft developed a version of its DH-2 light helicopter into a remotely piloted drone usable for gunnery practice, in much the same manner as the original de Havilland Queen Bee. DH-2s used in this role flew with a light fiberglass shell resembling the shape of a larger, manned helicopter, and contained acoustical sensors to allow the detection of hits from anti-aircraft batteries located on the ground below.

*Del Mar DH-2
Target Drone*

The advent of vastly smaller microprocessors in the 1990s made possible the creation of substantially smaller drone helicopters, which offered the promise of reduced acquisition and operating costs compared to full-sized aircraft. A confluence of technologies soon after the turn of the 21st century resulted in a return to a helicopter design that had been all but abandoned nearly a century earlier: the quadcopter.

*de Bothezat Helicopter,
1922*

Helicopters with four lifting rotors are not new. A piloted quadcopter was designed, built and flown successfully for the United States Army by Jerome-de Bothezat in 1922. The aircraft flew, but severe flight control limitations led to the abandonment of the program less than two years after first flight. Designs with one or two full-sized, dynamic rotors were found to be more efficient and more stable, and have been used on nearly all large helicopters from the 1940s through the present day.

In an extremely small drone helicopter, however, the quadcopter offers an irresistible design advantage: simplicity. The rotors of a large helicopter must be capable of being adjusted in flight, with changing blade angles and rotor tilt integral to the aircraft's control system. A quad (or other multi-rotor) allows for small, easily-manufactured fixed-pitch rotors to be used instead. Control is achieved not by altering the physical characteristics of a single large, complex rotor, but instead by individually increasing or decreasing

the speed of four small, simple fixed rotors. By using a separate electric motor to power each rotor, flight control can be handled via a program coded into the onboard microprocessor. For small rotorcraft, the mechanical simplicity of a quadcopter's fixed rotors more than compensates for the reduced efficiency and the need for computer-assisted active stability.

The technologies embodied in the multirotor resulted in an explosion of drone missions in the first two decades of the twenty-first century. Without a pilot aboard, such drones could safely fly into active volcanoes and other dangerous areas without risking a human crew. Squadrons of hundreds could fly together in spectacular synchronous demonstrations over major sporting events or amusement parks. Camera-carrying drones could deploy in security and surveillance missions to allow monitoring of sensitive areas without the expense of manned aircraft. Critical deliveries of medical supplies in areas with few roads could be made quickly and at reasonable cost. And later this year, NASA will attempt to launch the Mars Helicopter Scout to extend drone helicopter operations into skies beyond those of Earth altogether in an epic journey of exploration.

What use is a drone? The Hiller Aviation Museum answers this question and shares the story of UAVs by exhibiting a wide range of unpiloted aircraft, from the enormous Boeing Condor to the diminutive DGI Phantom. The Museum's newly-renovated Drone Plex displays and interprets many of these remarkable aircraft, while providing visitors the opportunity to operate drone simulators and fly real drones in a netted enclosure. Join the adventure this spring and discover the amazing world of robotic flight.

Resources

Ready for Liftoff, Bruce Del Mar, 2010

PRESIDENT'S PERSPECTIVE



In the gallery, we're pleased to unveil our Fokker DR.1 Triplane, a full-size reproduction which is the beautiful result of a 4-year effort by skilled volunteers in the restoration shop. Sadly, the project's lead volunteer, Don Torburn, passed away just a few weeks before the debut of the aircraft. We know how proud and satisfied Don was with the project, as we are of his fine work and the accomplishments of his colleagues in bringing the project to completion. The Fokker replica is purpose-built to be an aircraft within our gallery into which visitors can clamber, and sit inside the cockpit. Imagine the brutal cold in the open air over France in 1918 as you manipulate the flight controls. It's a unique experience you won't want to miss on your next visit.

A heartfelt "thank you" goes to all of the many contributors, visitors and museum Members for supporting us and making the museum part of your lives. There are great things coming, and we look forward to seeing you this spring at the Hiller Aviation Museum.

Jeffery Bass, President & CEO



**FLIGHT SIM ZONE
OPEN SAT & SUN
11 AM – 2 PM**

Hiller Aviation Museum



AVIATION CAMP 2020

Take Flight This Summer!

Created for children entering Grades JK-8, Aviation Camp uses hands-on experiments, authentic flight simulation and real aircraft to provide week-long adventures in flight.



Air & Space

Entering Grades K-5

Assemble and launch a high performance rocket!



Physics Flyers

Entering Grades K-5

Investigate the science of flight!



Aero Engineer

Entering Grades K-5

Design, build and fly aircraft and drones!



X-Plane Pilot

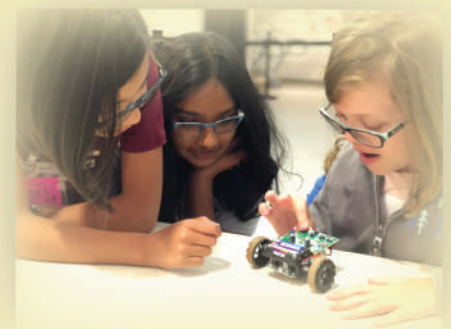
Entering Grades K-5

Explore cutting edge aircraft!

Advanced Camp

Entering Grades 5-8

Additional sessions are available for children ages 10-13. Visit www.hiller.org for complete information.



ENROLL TODAY

www.hiller.org ♦ (650) 654-0200

The Hiller Aviation Museum is a 501(c)(3) public nonprofit organization, ID #94-3226411

CALENDAR OF EVENTS

MARCH

SUN, MARCH 1 • 10:30, 11:30 & 12:30 PM
Starlab Sky Show

SUN, MARCH 8 • 2 – 3:30 PM
Flight Sim Rally

SUN, MARCH 15 • 10 AM – 12 PM
Leaping Leprechaun

SUN, MARCH 15 • 10 AM – 12 PM
Kid's Carnival

SUN, MARCH 15 • 2 PM – 3:30 PM
Flight Sim Club

SAT, MARCH 21 • 11 AM – 2 PM
E – Gamer Aerobatic Flight Sims

SUN, MARCH 22 • 1:30 – 4 PM
Drone Meet

SUN, MARCH 29 – SAT, APRIL 11
Spring Model Train Show

MARCH 30 – APRIL 3
Aviation Camp

APRIL

WED, APRIL 1 – SAT, APRIL 11
Spring Model Train Show

SUN, APRIL 5 • 2 – 3:30 PM
Flight Sim Rally

APRIL 6 – APRIL 10
Aviation Camp

SAT, APRIL 11 • 10 AM – 1 PM
Easter Bunny by Helicopter

SAT, APRIL 18 • 11 AM
X – 15 Presentation and Book Signing

SUN, APRIL 19 • 11 AM
Water Rocket Rally

SAT, APRIL 25 • 6 PM – 10 PM
Flying Gatsby Ball

SUN, APRIL 26 • 10 AM – 12 PM
Kid's Carnival

SUN, APRIL 26 • 2 PM – 3:30 PM
Flight Sim Club

MAY

SAT MAY 2 • 10 AM – 5 PM
Scout Saturday

SUN, MAY 3, 2 – 3:30 PM
Flight Sim Rally

SAT, MAY 9 • 7 AM – 10 AM
Airport Runway Run

SUN, MAY 10 • 1:30 PM – 4 PM
Drone Meet

SUN, MAY 17 • 11 AM
Water Rocket Rally

SUN, MAY 24 • 10 AM – 12 PM
Kid's Carnival

SUN, MAY 24 • 2 PM – 3:30 PM
Flight Sim Club

SAT, MAY 30 • 10 AM – 2 PM
Open Cockpit Day

GOURMET FOOD TRUCKS • WEDNESDAYS, 11AM-1:30PM
DRONE PLEX • SATURDAYS & SUNDAYS, 10:30AM-12PM & 1PM-3PM
INVENTION LAB • SATURDAYS & SUNDAYS, 10:30AM-4PM
FLIGHT SIM ZONE • SATURDAYS & SUNDAYS, 11AM-2PM
BOY AND GIRL SCOUT PROGRAMS
OFFERED EACH MONTH – WWW.HILLER.ORG/SCOUT-PROGRAM

PEAXY TOTAL DATA ACCESS
FOR INDUSTRY

Biggest Little AIR SHOW

Saturday
June 13
10am-1pm



Remote Control
Air Show Featuring:
Gas & Electric Powered Airplanes
Helicopters
Jets
Drones



And one FULL Scale
aerobatic performance
by Yuichi Takagi in his
Pitts S-2S

FLYING LEPRECHAUN

SUN, MARCH 15, 10AM-12PM
LEAPING LEPRECHAUN AT 11AM

Come celebrate St. Patrick's Day at the Hiller Aviation Museum with face painting, bounce house, "Pot of Gold" treasure



hunt and a Skydiving Leprechaun! Event included with museum admission.

TRAINS AND PLANES DISPLAY

SAT, MARCH 29 – SAT, APRIL 11
DAILY, 11AM-3PM

Join us for our annual Spring Model Train Show. This year there will be five separate model train layouts set up at the museum.



E-GAMER AEROBATIC FLIGHT SIM EXPERIENCE

SATURDAY MARCH 21, 11AM – 2PM



E-gamer social is hosting a multi-player video gaming social event for both typical kids and kids with special

needs. This event will featuring 10 Overwatch gaming computers and 2 VR systems that allow the real-life a real life flight experience of an aerobatic Extra 330sc. After enjoying a VR flight, kids will be able to view the unlimited Aerobatic Extra 330sc on display at the museum.

Members of the chapter 38 International Aerobatics Club will also bring their aerobatic planes for display.



E-gamer Social is an inclusive, all-volunteer program, and was created to help middle school and high school kids with social challenges. Our mission is to create an inviting space that encourages kids with social challenges and their friends or family members to play games together. By experiencing collaboration in such a competitive and social video gaming environment, our kids will learn how to work together and improve their teamwork skills. Go to www.e-gamer.social today to learn more! Event included with museum admission.

EASTER BUNNY ARRIVES BY HELICOPTER

SAT, APRIL 11, 10AM – 1PM



Join the Easter Eggstravaganza on Saturday April 11 from 10AM-1PM, The Bunny arrives at 11AM. Get an Easter Egg straight from the Bunny and enjoy face painting, a bounce house. All included with museum admission.

FLYING GATSBY BALL

SATURDAY APRIL 25, 6PM – 10PM

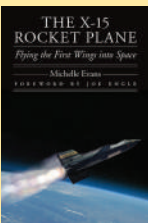
One hundred years later, the 1920s roar again at the Hiller Aviation Museum!



After the end of the First World War, America sprang to life. Peace returned, women received the right to vote, and a buoyant economy spread a tremendous optimism across the land.

Relive the spirit of the Roaring Twenties at the Flying Gatsby Ball! Join us for a roaring good time as the Museum turns into your very own Speakeasy. Come as a flapper, gangster, or silent movie star. Dance the night away to sounds from the Jazz Age and learn classic 20's dances. Appetizers are included and both classic and contemporary drinks will be available for separate purchase. Photo ops in front of our antique aircraft and cars including the Fairchild 24 "Honeymoon" airplane.

Join in the fun and join the excitement on April 25 at the Flying Gatsby Ball! Tickets available on Eventbrite: \$45, \$35 Museum Members



THE X-15 ROCKET PLANE, FLYING THE FIRST WINGS INTO SPACE

SATURDAY, APRIL 18, 11 AM

Presentation and Book Signing by Michelle Evans

With the Soviet Union's launch of the first Sputnik satellite in 1957, the Cold War soared to new heights as Americans feared losing the race into space. This presentation tells the enthralling yet little-known story of the hypersonic X-15, the winged rocket ship that met this challenge and opened the way into human controlled spaceflight.

This remarkable research aircraft held the world's altitude record for 41 years, and still has no equal to match or better its speed of more than 4,500 mph. Beyond the X-15 are the stories of the 12 men who guided it into space, and all the people who kept the rocket plane flying for nearly a decade. This

is the story that has never been told of the vehicle that was the true precursor to the Space Shuttle by being the first piloted and winged vehicle to exit Earth's atmosphere, and make a controlled reentry to a landing on hard-packed dry desert lakebeds.

In her research, Ms. Evans interviewed nearly 70 people, including 9 of the 12 pilots, including Neil Armstrong, Scott Crossfield, and Robert White, with family representatives for the remaining pilots. Others she spoke with include managers, flight planners, and the technicians and engineers who made the X-15 ready to fly its next research mission at high altitude and high Mach.

HILLER AVIATION MUSEUM PRESENTS

FLYING GATSBY BALL

SATURDAY APRIL 25TH

6-10 PM

- Dancing to the Brassworks Swing Band in the Museum Gallery
- No-host bar for classic cocktails
- Flying Gatsby costume contest
- Appetizers will be included
- All proceeds help fund STEM education programs

TICKETS

\$45 Non-Members \$35 Museum Members



HILLER AVIATION MUSEUM

Don't miss the best Gatsby Party on the SF Peninsula!

HILLER AVIATION MUSEUM 601 SKYWAY RD SAN CARLOS, CA 94070



REGISTER NOW

WWW.HILLER.ORG/RUN

SATURDAY, MAY 9, 2020



WALK • JOG • STROLL
on the **San Carlos Airport Runway!**

Certified 5K and 10K courses & 2K fun run

**EVENT IS EXPECTED
TO SELL-OUT AGAIN.
REGISTER EARLY!**

**SPONSORSHIPS
NOW AVAILABLE!**

**VOLUNTEERS
NEEDED!**

ADVANCED PACKET PICKUP — HIGHLY RECOMMENDED!

Friday, May 8 • 2 pm – 7 pm
Sports Basement
202 Walnut St., Redwood City, CA 94063

20% off all in-store purchases*
during packet pickup hours for
Airport Runway Run participants!

*Some exclusions apply.

Sports
Basement
www.sportsbasement.com

EDUCATION PROGRAMS SPRING 2020

AVIATION CAMP—SPECIAL SPRING SESSION GRADES K-6

DRONE RANGERS

MAR 30-APR 3 + APR 6-10

Launch a Spring Break mission in flight! Explore robotic flight by examining, building and flying real drones. Complete challenging flight simulation missions, work with real aircraft and more in a hands-on adventure in aviation!

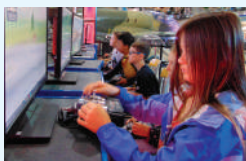


FAMILY SUNDAY PROGRAMS • SPRING 2020

DRONE MEET • AGES 8+

MARCH 22, MAY 10 • 1:30 – 4:00 PM

Compete in a mini-event in drone flying! Practice a specific maneuver on drone simulators, then fly against the best of the best inside the newly reconfigured Drone Plex!



FLIGHT SIM CLUB

MARCH 15, APRIL 26, MAY 24 • 2 PM – 3:30 PM

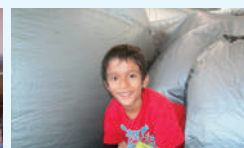
Join the Hiller Aviation Museum flight simulation community for a monthly meeting to discuss new developments in simulation technology and try out some of the newest advancements.



STARLAB SKY SHOW • AGES 3+

MARCH 1 • 10:30, 11:30, 12:30

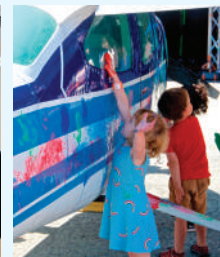
Enter the Starlab Planetarium and take a trip through the glittering stars, planets and constellations of spring. Identify star patterns visible from your own backyard this season during a special 30-minute presentation.



KIDS' CARNIVAL • AGES 3+

MARCH 15, APRIL 26, MAY 24 • 10 AM – 12 PM

Join the fun to paint a plane, build and fly a model aircraft, check out in an aircraft cockpit and more in a special hands-on festival of flight!



WATER ROCKET RALLY • AGES 5+

APRIL 19, MAY 17 • 11 AM

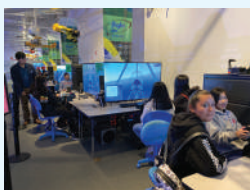
Get ready for splash-off! Learn about the history of rocketry, then use a soda bottle to construct and launch a water-powered rocket! Bring a recycled soda bottle from home, or purchase one at the Museum's Gift Shop on the day of the event.



FLIGHT SIMULATOR EVENTS • AGES 8+ FLIGHT SIM RALLY

MARCH 8, APRIL 5, MAY 3 • 2 PM – 3:30 PM

Fly with the best of the best in a 30-minute simulation challenge in the Flight Sim Zone! Learn to perform a specific flight maneuver in a unique simulated aircraft, then take the controls to complete the mission of the month!



All Sunday Family Events are included with Museum admission. Space is limited for some events and no-cost tickets or reservations may be required. Check www.hiller.org for capacity information, or request tickets at the Admissions counter on the day of each program.

AVIATION CAMP • SUMMER 2020

Registration is now open for this summer's Aviation Camp program! See the flyer or visit www.hiller.org for more information. Online registration now available. Make your plans now to join us this summer for an amazing experience in flight!