Aviation Exploring Post 107

Aerospace Education And Youth Development

Somerset Air Service, Inc. SMQ

FLIGHT LOG SEPTEMBER 2006

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Aviation Exploring is "Learning for Life" sponsored by:
Somerset Air Service, Inc.
Somerset Airport @ George Walker Field – SMQ
P.O. Box 197, Bedminster, NJ 07921-0197
"A Field of Dreams"
908 722 2444 / info@somersetairport.com / http://www.somersetairport.com

Aviation Exploring Post 107 has taken off and is on an exciting journey in aerospace. Our journey is documented in our **AEP107 FLIGHT LOGS**. Our experiences, activities, member information are recorded and published to our membership, alumni, recruits, partners and friends of AEP107, on a monthly basis. The AEP107 Flight Logs are also posted on our website: **www.aep107.org**.
Please send all FLIGHT LOG information / updates to: **chairman@aep107.org**

YOUTH PROTECTION NOTES: The AEP107 Flight Log does not publish the last names of Aviation Explorers ages 17 and under. The AEP107 Flight Logs are distributed individually via Bcc:

PROGRAM CALENDAR Return to Contents

OCTOBER 2006 (to date)

THU	5	**7:30 PM** **8:00 PM**	**Business Meeting** ❑ NASA Trip Expenses ❑ Signature Flight Support Visit ❑ Private Pilot Ground School **Private Pilot Ground School**	Nick Duffy	SMQ Office
THU	12	**7:30 PM**	**Private Pilot Ground School**	Duffy	SMQ Office
THU	19	**7:30 PM**	**Private Pilot Ground School**	Duffy	Sky Manor Airport
SAT	14		**Rotorfest 2006** http://www.schultzairshows.com/Rotorfest2006.htm	Personal Participation	West Chester, PA
THU	26	**7:30 PM**	**Private Pilot Ground School**	Duffy	SMQ Office

UP & COMING EVENTS: Return to Contents

10 Year AEP107 Reunion, THU, DEC28, Sky Manor Restaurant, Pittstown, NJ
Invitation: Current Members and their families, Alumni, and all of our FRIENDS

2007 Raritan Valley – Aviation Merit Badge Program,
SAT, MAY5, 7:30 AM to 3:00 PM at the Sky Manor Airport, Pittstown, NJ

EAA AirVenture Oshkosh, July 23 - 29, 2007
9 Months 3 Weeks 0 Day

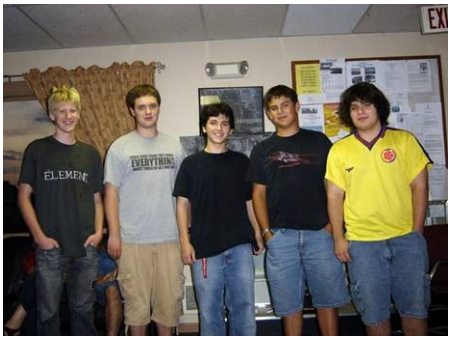
CLASSIFIED Return To Contents

Somerset Soaring Ventures, Inc. http://www.somersetsoaring.com
AEP107 Members – Volunteer Wing Walkers
If you wish to be a Volunteer Wing Walker for FFF, Inc., please contact Jay Hahola at the glider line on **SAT, 12 PM** weather permitting. Jay would like to meet you personally.

AEROSPACE PROGRAM ACTIVITIES Return To Contents

- **Meet our AEP107 Officers for the '06-'07 Program Year**, Business Meeting, THU, SEP7, 7:30PM

Our Officers, elected in June, took office on September 1, 2006. This happy group will manage the AEP107 program and organization development for the AEP107 '06-'07 Program Year.



From the left:

Brian - Secretary
Ian - Treasurer
Nick - President
Keith – VP, Program
Henry – VP, Administration

- **EAA643 Barbeque – Doug's Hanger SAT, SEP9, Starting at 4:00 PM**

Left: The end of summer barbeque was good friends, hot air balloons, Jimmy Buffet songs and really great food coming off the grill.

Thank You, Doug.

- **Keith (16) has earned his Glider Pilot Certificate**

Keith has been a volunteer glider line tech for the Somerset Soaring Ventures, Inc. at the Somerset Airport. His volunteer time equated into glider pilot lessons. Keith is now working to earn his Private Pilot Certificate. I understand that earning his Glider Pilot Rating is an excellent first step toward his Private Pilot Rating. Atta Boy!!!

- **NASA Langley Research Center Trip, SEP 24 & 25, Hampton VA**

AEP107 and NASA set up a visit to the NASA Langley Research Center to introduce our members and parents to the exciting world of NASA's research and development. These career development trips are support for our members and parents in their post-secondary education and career planning.

Front Left to Right: unknown NASA, Brian, Bryan, Nick, Keith, Peter Thomas NASA
Rear Left to Right: Tom Teel, Gabor Kiss, Steve Pronko, Ian, Duffy Ricks

Mr. Peter Thomas set up a really great agenda:

- SENSOR & MATERIALS INTEGR SEC
- AERO MODELS DEVELOPMENT
- 7' X 10' HIGH SPEED WIND TUNNEL

Left: Nick, President, AEP107 is shown here with a flexible airfoil carved from a block of metal by high speed water & grit.

We would like to thank Peter and all of the NASA employees who focused in on aerospace development and how their careers started in NASA. We are all very impressed and planning a trip to the NASA Goddard Research Center in the spring.

- **AEP107 R/C Model Aviation**

First I heard, "Mr. Teel we are opening the vans side sliding doors"

Then I hear, "Mr. Teel, please leave the van!!

Then Ian pilots his new electric helicopter through my van.

While the little yellow helicopter may be a bit blurry, you can see it here flying through my van. I might add that it was a safe flight and the van is intact.

MEET OUR ALUMNI - Return On Investment Return To Contents

ALUMNI, Please keep in contact with AEP107 and let us know how and what you are doing as an example for our future aerospace community members. Pictures would be great!

AEROSPACE: NEWS Return To Contents

NASA Rover Nears Martian Bowl Goal *(September 7, 2006)* — NASA's Mars rover Opportunity is closing in on what may be the grandest overlook and richest science trove of its long mission. During the next two weeks, the robotic geologist is likely to reach the rim of a hole in the Martian surface wider and deeper than any it has visited. The crater, known as "Victoria," is approximately 750 meters (half a mile) wide and 70 meters (230 feet) deep. > full story

Aerospace industry needs skilled workers, NSCC says

By BEVERLEY WARE South Shore Bureau

Nova Scotia's aerospace industry will need 800 highly skilled workers for the province's aerospace industry in the next five years, according to Nova Scotia's community college system.

Hal Davies of the Aerospace and Defense Industries Association of Nova Scotia says those who make it will be creative yet practical.

Mr. Davies, who is involved in a partnership of industry and educators to match training and education with the job market, said in a recent interview that the industry is "looking for people who are ambitious and have a desire to succeed in an area that has a great future."

Fossett Glides into Record Book **Perlan Project website.**

Buenos Aires, Argentina – August 31, 2006 –

Billionaire adventurer Steve Fossett said he broke another world record Wednesday, taking the world's first stratospheric glider flight. He and co-pilot Einar Enevoldson, a former NASA research pilot, took their high performance research glider to an altitude of 50,671 feet, breaking the previous record by 1,662 feet.

Flying along the crest of the Andes, Fossett and Enevoldson made the record by surfing the Andean 'mountain wave' after the glider with its 72-foot wingspan was towed to 13,000 feet. During the four-hour climb, they literally 'surfed' from one mountain wave to another to increasingly greater height.

The two wore pressure suits, helmets, foot heaters and hand muffs to ward off the cold as temperatures reached a low of –71 degrees Fahrenheit outside.

Piasecki Completes World's First Autonomous Autogyro Flight

Essington, PA – July 12 2006 - Piasecki Aircraft Corporation (PiAC) announced today the successful flight of the world's first autogyro with Level 4 autonomy; flying a mission consisting of navigation through multiple pre-programmed waypoints. The system incorporates a 6-DoF model provided by

Georgia Tech with autonomy system components supplied by Geneva Aerospace and integrated by Piasecki onto a commercial kit autogyro platform. The system was flown as part of a company funded technology demonstration program supporting the development of a system for the US Army FCS Air Guard Class III UAV program.

DuPont News, September 28, 2006

DuPont, Honeywell Develop New Process for Making Titanium Metal Powder
http://www2.dupont.com/Media_Center/en_US/daily_news/article20060928.html

DuPont has developed a new process for making high-purity titanium metal powder that could reduce cost and substantially boost efficiency in parts manufacturing.

Titanium is a strong, lightweight and durable metal, but has long been reserved for applications that could justify its historical high cost. The new process, developed with Honeywell Electronic Materials, makes titanium metal powder which can then be pressed into desired shapes. It will allow manufacturers to make parts faster, with less machining and significantly less scrap, while yielding virtually the same strength and weight characteristics as machined titanium.

AEROSPACE: THE FUTURE Return To Contents

Virgin Galactic: http://www.virgingalactic.com/
Virgin Galactic is the world's first ever venture into space tourism.
Giving you the groundbreaking opportunity to be one of the first ever space tourists, Virgin Galactic will own and operate its privately built spaceships, modeled on the remarkable, history-making SpaceShipOne.

New IBM Supercomputer Aiming For Petaflop
http://www.informationweek.com/industries/showArticle.jhtml?articleID=192600034&articleID=192600034&sa_type=&section=industries&subSection=News+By+Vertical+Industry

WASHINGTON, By Reuters , InformationWeek , Sep 7, 2006 08:23 AM

"Roadrunner," as the machine is now nicknamed, is to be built entirely from commercially available hardware and is based on Red Hat Linux version 4.3.

IBM will build a next-generation supercomputer for the U.S. Energy Department with the potential to achieve a sustained speed of 1,000 trillion calculations per second, or one petaflop, the department said on Wednesday.

The new computer, dubbed "Roadrunner," will be built at the Los Alamos National Laboratory in New Mexico.

Congress provided $35 million in fiscal 2006, which ends on Sept. 30, to launch the super computer project.

Flying On Hydrogen: Georgia Tech Researchers Use Fuel Cells To Power Unmanned Aerial Vehicle

8/29/2006 Georgia Institute of Technology researchers have conducted successful test flights of a hydrogen-powered unmanned aircraft believed to be the largest to fly on a proton exchange membrane (PEM) fuel cell using compressed hydrogen.

The fuel-cell system that powers the 22-foot wingspan aircraft generates only 500 watts. "That raises a lot of eyebrows," said Adam Broughton, a research engineer who is working on the project in Georgia Tech's Aerospace Systems Design Laboratory (ASDL). "Five hundred watts is plenty of power for a light bulb, but not for the propulsion system of an aircraft this size." In fact, 500 watts represents about 1/100th the power of a hybrid car like a Toyota Prius.

Space Elevator Games to Spur a New Generation of Space Travel
PRESS RELEASE, Date Released: Friday, September 8, 2006, Source: Spaceward Foundation

The Spaceward Foundation recently announced the second annual Space Elevator Games to be held in partnership with NASA and the X PRIZE Foundation at the Las Cruces International Airport in New Mexico, USA.

Together, NASA, Spaceward, and X PRIZE are looking to jumpstart safe and efficient space exploration using prizes for private research; much like the Orteig Prize which was won by none other than Charles Lindbergh in his Spirit of St. Louis. The competitions have a total purse of $400,000 sponsored by NASA's Centennial Challenges program, quadrupling the amount of prize money of last year's event. Two prizes will be awarded to teams who can build the strongest tether, and the fastest moving vertical robot. Over twenty teams from different universities and research groups will be competing for a piece of space travel history.

Mojave Spaceport Gearing Up for SpaceShipTwo

Posted on September 8, 2006 @ 12:08:18 EDT, Author Leonard David

The Mojave, California Spaceport is preparing to handle test flights of the SpaceShipTwo – a passenger carrying suborbital craft, according to Bill Deaver, editor and publisher of the *Mojave Desert News.*

The newspaper on Thursday cited recent comments from Burt Rutan, head of Scaled Composites – the firm working to build the spaceship and its giant mothership, White Knight 2.

Rutan noted that Scaled Composites is doubling in size and he expects his firm to keep growing.

In the *Mojave Desert News* story, Rutan said that Scaled will begin building new hangars on the Mojave airport/spaceport's new 3,500-foot long Taxiway Bravo soon as part of their project to design, build, and flight-test the new SpaceShipTwo/White Knight 2 generation of vehicles.

"I expect we will see at least two space flights a day in the next few years," Rutan said, noting that the spacecraft and the launch vehicles he is designing "will be able to make two flights per day," the newspaper story stated.

Tiny Fuel Cell Might Replace Batteries In Laptop Computers, Portable Electronics

Source: **American Chemical Society**; Date: September 14, 2006

If you're frustrated by frequently losing battery power in your laptop computer, digital camera or portable music player, then take heart: A better source of "juice" is in the works. Chemists at Arizona State University in Tempe have created a tiny hydrogen-gas generator that they say can be developed into a compact fuel cell package that can power these and other electronic devices -- from three to five times longer than conventional batteries of the same size and weight.

PICTURE(S) OF THE MONTH Return To Contents

ERIK SIMONSEN ILLUSTRATION

Future fill up
Shown is a computer-generated illustration of the conceptual Blended Wing Body (BWB) tanker refueling X-45 Unmanned Combat Air Vehicles. Phantom Works is currently studying BWB aircraft concepts.