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April Meeting Announcement

Monday, April 20, 2009

" Qualifying and Funding Real Green Projects for Industrial / Commercial Facilities"

Presented by:

IIE senior member Ted Bier of T.M. Bier & Associates, Inc.
 This presentation will provide information on the following:

- Obtaining funds for energy cost reduction project(s) through the following sources - Economic recovery act, Tax credits, Utility rebates, & Conventional financing
- Types of energy projects: Improvement to infracture including lighting systems & HVAC, Building Automation Systems, Renewable Energy including solar & wind
- Energy initiatives in Transportation, including material handing, delivery vehicles, & solar "car ports"
- Planning a Green Building & LEED (Leadership in Energy and Environmental Design) certification

Time: 6:00pm -Networking/Refreshments, 6:30pm - Presentation

Place: Air Techniques, Inc., Melville, NY (directions will be sent once your reservation is received)

Reservation must be received no later than Sunday, April 19th email: Tom Fiorella at tfior9651@msn.com with: Name, Title, Company for yourself and each guest. Please indicate: address, member affiliation (IIE / SME), phone, fax, and/or email address. For inquiries call Tom at 516-214-5588.

A Lite buffet/dinner/refreshments will be provided - \$5
 This is a joint event with the Long Island & NY Chapters of IIE & SME

Long Island & Metro NY Chapter 86 Events Calendar

Mon., April 20, 2009
 Qualifying and Funding Real Green Projects for Industrial / Commercial Facilities

Wed., April 29, 2009 - 6pm
 NE Region Webcast
 Hosted by: Pittsburgh, PA Chapter
 IE's & Lean - How they can have an Impact in a Down Economy
 (See details below)

Wed. May 20, 2009
 Tour of Sulzer Metco (US) Inc.
 – An example of Lean in Practice

Professional Events Calendar

APICS NYC-LI CHAPTER
 Wednesday, April 15, 2009 at 6pm

Topic: **Lowering Your Procurement Costs and Improving Monthly Cash Flow**

Location:1 Penn Plaza (23rd Floor) NYC

Please register at www.apicsnyc-li.org or email meetings@li-apics.org

President's Message



This month the Chapter's newsletter has made the transition to electronic media in both appearance and delivery. Those members whose records currently indicate that they still prefer US postal delivery or do not have an email address on file will continue to receive through the mail.

I urge those who currently don't have an email address on file to please consider electronic delivery. The average cost of printing and mailing the newsletter each month for 2008 was \$145. The savings will enable the Chapter to possibly provide funds for awards and token scholarships for students and also provide some funds for more interesting monthly programs.

The last Chapter meeting was hosted by AIAA in February on the topic of "100 years of Aerospace Heritage on Long Island". Former Vietnam war pilot Tom Gwynne, V.P. for Programs at the Cradle of Aviation, provided the extremely interesting presentation. Please see Carolyn Chen's detailed review below. You may have noticed that the Chapter did not have a March program. We had a couple of plant tours on the radar but were unable to get commitment for March and was told that later in the spring was better suited to their schedules. We now have a firm date from Sulzer Metco in Westbury, NY for a plant tour of their Lean Manufacturing facility on May 20, 2009.

As of late there has been much emphasis on environmental concerns, which includes Green Buildings. For the April meeting presentation IIE Chapter member Ted Bier, principle of T.M. Bier & Associates, Inc. will be the guest speaker. This will be a great opportunity for IIE and SME members and guests to get some good insight into various energy savings projects that could be implemented at industrial / commercial facilities. Hope many of you will join us for Ted's presentation and I suggest that you bring along your associates that have an involvement with plant / facilities operations.

Chapter 86 President

Tom Fiorella

Northeast Region April Webcast

Hosted By: Pittsburgh, PA Chapter
Wednesday, April 29, 2009

Topic: "IEs and Lean: How they can have an impact in a Down Economy"

Speaker: Panelists

Date: Wednesday, April 29th, 2009 - Time: 6:00 p.m.

Featuring a Panel of Industry Leaders:
Mark Coffey - Laurel Mountain District-IE Package Section Leader, UPS
Nate Wilson - Consultant, GEBS (Giant Eagle Business Systems)
Doug Rabeneck - Senior Manager, Accenture

AIAA - Long Island Section

Thursday, April 30, 2009
6pm Networking, 6:30pm
Pizza, 7pm Presentation

Topic: Research and Engineering Challenges and the Role of Creativity and Innovation in NASA's Return to Flight

Location: Bethpage Public Library
47 Powell Avenue
Bethpage, NY 11714

RSVP BY April 28, 2009
to: Glenn Mackey
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Moderated by: Mike Lalle
- Laurel Mountain District-On Road Work Measurement Coord., UPS

In a down economy how can an IE keep employees and management motivated to make changes to the work environment, current processes, and/or culture?

How do you effectively use excess capacity to make process changes and justify the labor needed to implement the changes?

These questions and more will be addressed by our panelists and meeting participants. Please join us for this timely discussion via the webcast!

Point of Contact: Lisa Crognale

Review of the February Meeting

by: Carolyn Chen

For the February meeting, IIE and SME members were hosted by AIAA in the Bethpage Public Library. The presentation speaker was Tom Gwynne, V.P. for Programs, Cradle of Aviation Museum. His topic was, "100 years of Aerospace Heritage on Long Island" and featured the exhibits at the Cradle, which is located on Museum row in Uniondale.

The Cradle of Aviation opened in May 2002. The building uses two refurbished airplane hangers from the 1920's & 30's, and has an Imax theatre. The Cradle's mission statement is, "Preserving the past, Specializing in Long Island aeronautics history." This museum features only planes designed and built on Long Island. The group behind the



(Tom Gwynne, V.P. for Programs at the Cradle of Aviation)

Cradle has been collecting aircraft and participating in restorations for the past 30 years. If these exhibits can inspire 1-2% of the local school children to design and build aircraft, they will have met their educational and inspirational goals.

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Chapter 86 Membership Information

Long Island & Metro NY
Chapter = 100

About IIE - Founded in 1948, IIE is the premier society dedicated to serving the professional needs of industrial engineers and all individuals involved with improving quality and productivity. IIE has over 15,000 members and more than 280 chapters worldwide.

Who benefits from membership?

There are hundreds of job titles given to people, who manage, design, install, or maintain integrated systems of people, machinery, and information. No matter what your job title, if you are the person called upon for solutions when there is an issue that requires your attention, you belong in IIE.

**To become a member of IIE
call
1-800-494-0460
or log onto to
www.iienet.org & click on
Join IIE**

Visitors to the museum number 268,000 tickets annually. This museum is in the top 10 Air & Space museums in the country. Visitors include 50,000 school children, 15,000 Seniors, 10,000 Veterans, and 36,000 guests at corporate events. The Cradle can host up to 1000 people at a single corporate event.

The first exhibit that visitors see upon entering the museum is "Dream of Wings." People began experimenting in the 1800's with attempting and trying get air borne.

In 1783, the first hot air balloonists are considered to be the Montgolfier brothers from France. There were balloon launches on Long Island. A Long Island balloonist tried to fly across the Atlantic. The pilot crash landed in Connecticut and gave up. Balloonists have no control and are at the mercy of the wind.

In July 27, 1909, Louis Blériot became the first man to complete a heavier than air flight over a large body of water.[2] His monoplane design was the first plane to fly across English Channel, and earned a 1000 pound prize. He flew through a rain storm, which cooled the engine

Job Opportunities

Local job positions that may be of interest to IIE members are posted on the Chapter's website at www.iienet.org/long_island

Current Job Posting includes:

Occupational Health and Safety Engineer

Bachelors degree in Industrial Engineering, Safety Engineering or similar is required.

Location: Hicksville, NY

(see the Chapter's Careers Page for Details)

enough to survive the trip. This channel crossing, with Blériot being the only one of three pilots to succeed in the challenge, changed combat strategy. It did not go unnoticed that the Blériot #XI flew over and outpaced the naval destroyer sent along to escort and observe Blériot's trip.

Another artifact in "Dream of Wings" is the Wright Brothers cockpit from December 17, 1903. There was a legal patent battle for the invention of the aileron, a technology for controlling planes, between Blériot and the Wright Brothers.[3] The Wright Brothers are known for their pioneering of the first powered flight at Kitty Hawk, North Carolina. When the brothers returned to Ohio, it took some time to duplicate their success because of the altitude differences. Kitty Hawk was at sea level, and Ohio was at a higher altitude.

Blériot inspired another pilot to duplicate his flight, and Long Island was the training ground for that first female pilot to cross the English Channel Harriet Quimby.[4] Miss Quimby became the first licensed female pilot in the United States in 1911. She was a theatre critic, who moved from the West Coast to New York City in 1903. She did things unheard of for women at that time, such as wearing pants, driving fast cars and drinking alcohol. Miss Quimby designed her own trademark flight suit, a purple satin, hooded outfit with a pant design that buttoned up on the inseams, but could be converted to a skirt for post flight interviews. In April 1912, she flew across the English Channel from England to France. There was astonishingly little press coverage of her flight, due to the sinking of the Titanic during the same time. She was killed later that year, flying a Blériot monoplane that unexpectedly pitched forward, ejecting Harriet and her passenger to their deaths.

The Cradle of Aviation has the first airplane that Charles Lindbergh ever owned, the Curtiss JN-4 ("Jenny" for short). The JN-4 was designed as a training vehicle. Glenn Curtiss contracted to manufacture 5000 JN-4's for the government. The war ended in 1918. Curtiss had delivered 2000 of the 5000 planes. The government was forced to honor the contract and had to buy the rest of the 3000 JN-4s. These surplus airplanes were sold for \$500. These were purchased by "barnstormers", who flew around the country selling plane rides. Lindbergh did exactly this. This plane crashed twice and he repaired it himself. Lindbergh later sold the aircraft and it gathered dust in the Midwest. A local aviation enthusiast, George Dade, purchased this plane and restored it in the 1970's. During the restoration, he found a replacement rib carved CAL, Lindbergh's initials. Lindbergh visited the restoration and authenticated the plane as his old Jenny.

Long Island once again has an important place in aviation history, since Lindbergh took off from Roosevelt Airfield for his non-stop flight from New York to Paris on May 20 1927. His plane was the Spirit of St. Louis, a Ryan NYP (NY to Paris). This was a race, and the plane was designed and readied for the race within 60 days. Claude Ryan or Donald Hall, of Ryan airlines, modified everything but the tail. Staying awake for the duration of the journey was going to be a serious problem. "Fortunately", this tail assembly was so unstable, the jerkiness and noise would wake Lindbergh up when he started to doze. For instrumentation, Lindbergh was armed with a compass and a watch for his journey from Roosevelt Field to France.

The actual Spirit of St. Louis resides in the National Air and Space Museum, but the Cradle does have a copy. A filmmaker wanted to borrow the actual aircraft for a movie. The Smithsonian said "No Way". Hollywood was forced to build a replica. They found one of two remaining Ryan NYPs, and re-modeled it.

Replica B-159 is the one at the Cradle.

The Grumman F4F-3 Wildcat was built for challenging take-offs and landings on carriers. The F4F-3 pilots had to battle the experienced Japanese pilots in their nimble Zero aircraft. The American plane was no match for the Zero which flew higher, faster, and turned better. American pilots were pretty green compared to the Japanese pilots, but they did have the advantage of the F4F-3 Wildcat being much sturdier than the Zero. The Americans developed Air to Air radios, which helped pilots' learning curves. The Wildcat could sustain a 90 degree dive at full power - with no damage.

Grumman went to work on the next generation of the Wildcat - the F6F Hellcat. The Wildcat had a 3:1 victory ratio over the Zeros, but the Hellcat had a 17:1 victory ratio. The Hellcat could sustain a tremendous amount of damage and still get its pilot back to the carrier. For all its speed and agility, the Zero was just not as rugged. At a speed of 250 knots, the Zero controls would freeze. So they couldn't dive. Thus, American airmen's strategy would be to roll out of the fight, dive, and come back to fight another day. The Japanese military has a different mindset - they never give up and fight to the dying breath. When they see a dive, they assume they shot down the enemy. Thus, the Japanese tended to overestimate their kills.

The Cradle's Carrier Deck Exhibit has a restored F4F-3 Wildcat, pulled from Lake Michigan in 1989. In January 1944, Ensign Horace Little was approaching the USS Sable for his first carrier landing. He was waved off, but his arresting tail hook caught on a deck cable and broke the plane in half. The pilot survived and was pulled to safety, but the plane went to the bottom of Lake Michigan. Grumman's restoration team re-built it, with the final work and painting completed at the Cradle.[5]

Republic Aviation in Farmingdale, designed the F-105 Thunderchief. This was built to carry a nuclear weapon into Russia. It could fly at a low altitude at high speed. This was a technical evolution from the gravity bomb or iron bomb. The pilot must aim plane at the target and try to release the bomb at the right time to follow a ballistic trajectory. The downside of this low tech approach is, you need to hit your target on the first pass, otherwise you'd have to go back. 50% of the F-105's were shot down and many good pilots were lost. This put pressure on industry to design smart weapons that would be more accurate at hitting their targets and keeping crews out of hazardous situations.

The Grumman F-14 Tomcat is a supersonic aircraft and had its first flight on December 21, 1970. It was built at the height of the cold war to defend carriers from air to surface missiles. The Americans needed to get planes in the air fast and attack the vehicles carrying the air to surface missiles. The F-14 had defensive firepower advantage. The F-14 was retired from service on September 23, 2006. F-14's were sold to Iran in 1976 when the U.S. still had good relations with Iran and the planes are still actively being flown. However, the U.S. does not want spare parts to go Iran, so they are destroying any F-14's not in museums.

Lunar Module LM-13 is on display at the Cradle. The space program slowed down because the government couldn't support the Apollo program and Vietnam.

It is impressive to consider that only 60 years passed from the time Blériot flew a fabric crate across the English Channel to the time Apollo 11 landed on the moon on July 20, 1969. The space race was fueled by wanting to compete with the Russians. The space program changed our perspective on life. The concept of "Spaceship Earth" evolved when you could see pictures of the earth from the moon. In a sense, earthlings live on a spaceship. Seeing that image from afar, it becomes more obvious that we have a finite amount of consumables. The first Earth Day was celebrated in 1970 and thus began the motivation for recycling and renewing.

The Cradle of Aviation is also committed to renewal. They are designing and building new exhibits and are committed to giving new experiences to repeat visitors. The IMAX films change often. Nassau County plans to install Nunley's Carousel, from Nunley's Amusement Park in Baldwin (1939 to 1995) on Museum row next to the Cradle.

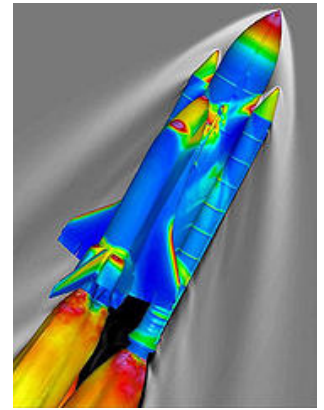
Another tip for visitors: Check your local library for a Cradle of Aviation pass. The pass is checked out like a book, so you can go for free. (But return the pass). 20 Long Island libraries participated and purchased these passes. For more information and history of aviation on Long Island, go to www.cradleofaviation.org or call 516-572-4111

[1] www.fantasy-balloons.com

[2,3] [En.wikipedia.org/wiki/Louis_Bleriot](http://en.wikipedia.org/wiki/Louis_Bleriot)

[4] www.cenntenialofflight.gov/essay/Explorers_Record_Setters_and_daredevils/quimby/EX5.htm.

[5] www.cradleofaviation.org/exhibits/restorations/f4f.html



AIAA Section MEETING

Thursday, April 30, 2009

Research and Engineering Challenges and the Role of Creativity and Innovation in NASA's Return to Flight

Speaker: Astronaut Dr. Charles Camarda,

NASA Engineering and Safety Center Deputy Director for Advanced Projects

**Location: Bethpage Public Library
Meeting Room, Lower Floor
47 Powell Avenue
Bethpage, NY 11714**

**Time: 6:00 PM Social Time
6:30 PM Pizza
7:00 PM Presentation**

**Cost: \$5, Members and Guests
Free for Students**

**RESERVATIONS REQUIRED:
RSVP BY April 28, 2009
to: Glenn Mackey
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After the 2003 Columbia accident and before returning the shuttle to space, NASA conducted an exhaustive investigation. Contributions provided by the three NASA Researchers Centers were pivotal in understanding the proximate technical cause of the accident, mitigating the cause of the problem, and developing the necessary technologies to ensure a continued safe and expeditious return to flight. NASA enhanced knowledge and understanding by reaching out to the research communities to utilize the latest advances in analysis, testing, inspection, monitoring and fabrication. Significant advances were made in understanding the complex aerodynamic and aerothermodynamic environments; debris transport; impact dynamics and failure of thermal protection system (TPS) (tile and reinforced carbon-carbon (RCC)); ablation of damaged RCC; etc. In addition, NASA developed innovative technologies for non-destructive evaluation (NDE), damage monitoring, and TPS repair. Throughout this process, a tremendous amount of insight was gained into how to develop innovative concepts and utilize innovative solution strategies in a timely and cost effective manner which satisfied the stringent demands of a very public, high-profile program! Dr. Charles Camarda will present his personal account of this process as an engineer involved with the Columbia Accident Investigation, an innovator of several of the technical concepts utilized for repair, and as an Astronaut who demonstrated and flew several of these technologies in space on STS-114, the return-to-flight mission of the Space Shuttle.

Charles Camarda was born in Queens, New York and received his undergraduate degree in Aerospace Engineering from the Polytechnic Institute of Brooklyn in 1974. Upon graduation, he began work at NASA's Langley Research Center (LaRC), received his M.S. from George Washington University in Mechanical Engineering in 1980 and a Ph.D. in Aerospace Engineering from VPI in 1990. He was Head of the Thermal Structures Branch at LaRC in 1996 when he was selected to be an Astronaut. He flew on the return-to-flight mission of Space Shuttle Discovery, STS-114, in 2005. He was selected Director of Engineering at JSC in December 2005 and now is the Deputy Director for Advanced Projects for NASA's Engineering and Safety Center (NESC).

Directions: The library is west of Route 135 in Bethpage. Take Route 135 to Exit 8, then West on Powell Ave. for about 0.25 miles. The library is on the south side of the street. Park across Powell Ave., opposite the library.