PRODUCED BY THE LONG ISLAND SECTION OF THE INSTITUTE OF ELECTRICAL & ELECTRONICS ENGINEERS

Volume 61, No. 4 April 2014

# THE PULSE OF LONG ISLAND

## Inside This Issue



IEEE

April showers brings us… LISAT of course! Well, actually in May, but I will take the liberty of counting May 2 as the end of April.

The IEEE Long Island Section and its Technical Society Chapters are celebrating the 10th Anniversary of the 2014 Long Island Systems, Applications and Technology Conference (LISAT2014) on Friday, May 2, 2014 at Farmingdale State College. The LISAT Conference, will feature three all-day parallel tracks of presentations that highlight new and interesting work on a variety of electronic systems, technologies and applications with most of them based right here on Long Island as well as a student paper track. In addition, a full-day Professional Development Track titled 'Power/Energy/Industrials' will provide attendees up to 0.6 CEUs (6 PDHs) for three (3) two-hour sessions. More details on LISAT including the Preliminary Program are available inside the *Pulse.*

March was a very busy month for the Section. We just held our annual Awards Banquet, attended by over 200 people and presented nine Long Island Section Awards, five IEEE Region 1 Awards, and an IEEE Educational Activities Board (EAB) Award. It was a wonderful evening, and it was great to be able to meet and speak to so many of you!

The Awards Banquet was made possible through the efforts of many volunteers– in particular the Awards Nominating Committee, Chaired by Jesse Taub, along with his team: Monica Bugallo, Nikolaos Golas, Alfred Lopez , Rod Lowman, and Richard Mohr, and the Awards Banquet Committee consisting of myself, Lou D'Onofrio, Metodi Filipov, Nikolaos Golas, Nazrul Islam, Tom Lanzisero, Sandy Mazzola, and John Vodopia.

At the Awards Banquet, we were also able to recognize and thank the volunteer members who are the engine that make the Long Island Section run. We have over 2000 members; about 75 have stepped forward to Chair the Society Chapters, Chair and staff the various Committees and assume the Liaison and Affinity Groups leadership positions. Without the efforts of the approximately 3%, the Long Island Section would ground to a halt. To all of our volunteers, I have once again to say: Thank You!

I would like to make an appeal to you our members who are not as active – come join us at the Executive Committee (ExCom) meeting and see what we do. Many hands make light work, and we could use the help. Our next meeting is on Monday April 28th – just send me an email at **chairman@IEEE.LI** and I will add your name to the attendance list. Any member is welcome to attend.

Our Section and its members are also very proud of the '*First Blind Takeoff, Flight and Landing*' IEEE Milestone. In 1929 Lt. James Doolittle became the first pilot to take off, fly & land an airplane using instruments alone. This accomplishment made all-weather airline operations practical. Join us for the upcoming dedication ceremony commemorating the 85th Anniversary of the event which is scheduled for Wednesday, September 24, 2014 at the Cradle of Aviation Museum, in Garden City. Read the detailed article inside the *Pulse* written by Mort Hans 'First Blind Flight' Committee Chair and by the Region 1 Historian and Milestone Coordinator Nikolaos Golas.

I hope you all enjoyed pi day!

**John G. Schmidt**
***Chairman, IEEE Long Island Section***
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### The IEEE Long Island Section Website

The IEEE LI Section website is update regularly to reflect recent section activity and upcoming events. Each Society and Affinity Group has a dedicated page which describes their function and includes contact information. Visit our site at: **www.IEEE.LI**

### Consultant's Network of Long Island

The Consultant's Network of Long Island maintains a referral service of engineering, computer, managerial & technical professionals. For more information, please visit their website at: **www.consult-li.com**

### Membership Development

For more information on membership with the Long Island Section of the IEEE contact: Nikolaos Golas at: **membership@IEEE.LI**

## April 2014

**April 2**, Wednesday
*Power Electronics and EMC Society Meeting*
**The Causes and Impact of EMI in Power Systems**
By Chris Swartz
Telephonics, Farmingdale, LI
6:00 PM - Refreshments
6:30 PM - Lecture

**April 2**, Wednesday
*Long Island Consultants Network Meeting*
**The End of Windows XP**
Briarcliffe College
The Great Room
Bethpage, LI
7:00 PM - Meeting

**April 8**, Tuesday
*PACE Meeting*
**Health Care Seminar**
By Matthew L. Mandell
NYU Poly, Melville, LI
6:00 PM - Refreshments
6:30 PM - Lecture

**April 23**, Wednesday
*Renewable Energy and Sustainability Center and PES Joint Meeting*
**Introduction to Smart Meters**
By Nazrul Islam
SUNY Farmingdale, LI
6:00 PM - Refreshments
6:30 PM - Lecture

**April 24**, Thursday
*Aerospace & Electronic Systems Meeting*
**Commercial ISS Cargo Delivery at Orbital**
By Robert T. Richards
Hofstra, Hempstead, LI
6:30 PM - Social Time
7:00 PM - Lecture

**April 28**, Monday
*EXCOM Meeting*
**Telephonics Corporation**
Farmingdale, LI
5:45 PM - Dinner
6:15 PM - Meeting

## May 2014

**May 2,** Friday
**Long Island Systems Applications and Technology Conference**
SUNY Farmingdale, LI
7:30 AM - 5:00 PM

**May 7,** Wednesday
**Long Island Consultants Network Meeting**
Briarcliffe College
The Great Room
Bethpage, LI
7:00 PM - Meeting

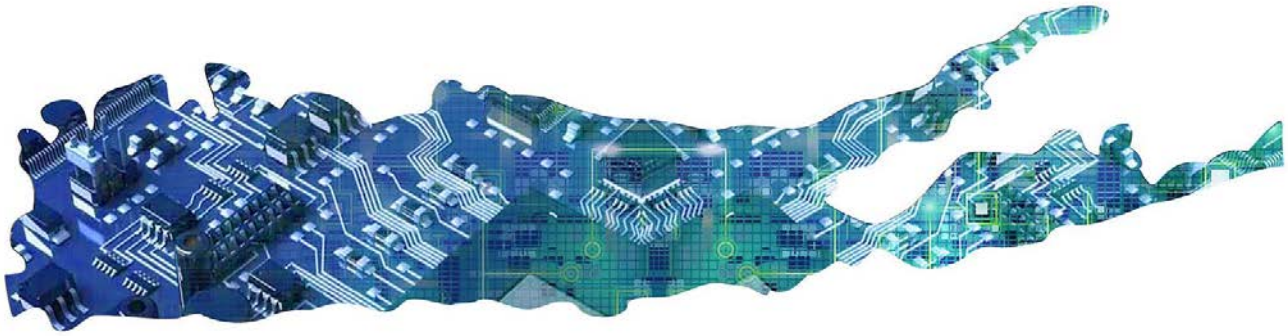
**May 8,** Thursday
*PACE Meeting*
**Estate Planning Seminar**
By Matthew L. Mandell
Telephonics Corporation,
Farmingdale, LI
6:00 PM - Refreshments,
6:30 PM - Lecture

**May 19**, Monday
*EXCOM Meeting*
**Telephonics Corporation**
Farmingdale, LI
5:45 PM - Dinner
6:15 PM - Meeting

**May 19**, Monday
*PACE Meeting*
**Mars Exploration with NASA Engineer Kobie Boykins**
By Kobie Boykins
Cradle of Aviation,
Garden City, LI
7:00 PM - Lecture

**May 22**, Thursday
*Product Safety Engineering Society Meeting*
**Safety Considerations in Power Supply Design**
By Louis R. Diana
Telephonics Corporation,
Farmingdale, LI
6:00 PM - Refreshments
6:30 PM - Lecture

For more information about these meetings and lectures, please visit: ***www.IEEE.LI/calendar***



# Long Island's Electrical and Electronic History

*By Jesse Taub, IEEE Long Island Section Historian*

We continue our exploration of early issues of the *Pulse* by going back to 1953 to find out what were the topics that interested our members at that time.

The May 1953 issue described a talk on the use of nuclear reactors for power plants and submarines. The talk was given by Dr. John Dunning, Dean of Columbia University. This was the era when the concept of nuclear power plants was new and growing fast. His talk centered on how industry can participate. He also discussed the sociological aspects of atomic energy or civilian use.

The September 1953 *Pulse* advertised a talk by Dr. G. Dacey of Bell Telephone Laboratories. On the Field Effect Transistor or FET. The FET was in its infancy at that time; bipolar transistor had a three year lead. The speaker pointed out that engineers that are used to vacuum tubes will feel comfortable designing FET based circuits because their operation is closer to triodes that are voltage controlled devices. He also showed why FET's have greater potential than bipolar types for use at microwave frequencies.

The October 1953 issue described a talk to be given by Dr. John R. Pierce of Bell Telephone Laboratories on the Traveling Wave Tube It is interesting to note, that, while transistor technology was growing rapidly. There still were new tubes being invented. The traveling wave tube was capable of broad band and low noise amplification at microwave frequencies. Transistors were years away from competing with this device. Traveling wave tubes are still in use for certain selective applications. It is also worthy of note that in the 1960's and 1970's Dr. Pierce became one of the pioneers who developed satellite communication systems where many of his traveling wave tubes were used.

The October issue also had a report from the Section Chair, Vincent Learned of Sperry. He was pleased to report that Long Island's transition to a full Section from a Subsection of the IRE is going smoothly. He reported on the formation of Professional Group chapters (now called Societies) such as Electron Devices, Computer and Nuclear Sciences.

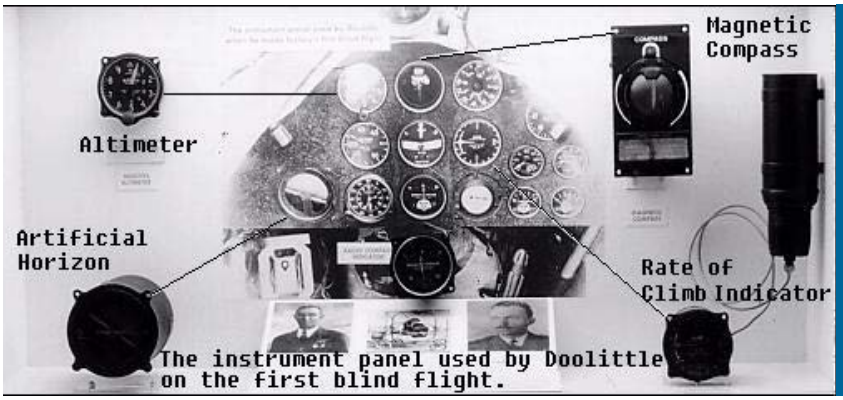
Reading these issues showed that our new Section was running well and was able to attract top speakers at what was then cutting edge technology. We will continue our perusal of early *Pulse* issue next on the. Once again, I wish to thank Jim Colotti, our webmaster, for posting them and Rod Lowman, our long time previous Historian for saving the old issues.

# FIRST BLIND TAKEOFF, FLIGHT and LANDING, 1929

## A Joint IEEE - AIAA Milestone

by Mort Hans, First Blind Flight Committee Chair and Nikolaos Golas, Region 1 Historian & Milestone Coordinator

After World War I, the role of aviation expanded from primarily the military to commercial enterprises with mail, cargo and passenger flights. Weather and visibility could disrupt regular flights which were required for the new aviation industry to be commercially successful and for the Post Office to establish overnight delivery schedules.




The NY-2 Husky Aircraft Cockpit Instrument Panel

At the beginning of the 1920s, the aviation instruments which were primarily mechanical, could provide altitude, attitude, direction and air speed information, but not an aircraft's spatial position, which was crucial during landing. Instruments and navigation aids were needed which would allow an aircraft to be flown on a course in fog, in any condition of visibility or no visibility.

landed after a fifteen minute, 20 mile, flight without ever seeing the ground. At the time the NY-2 Husky was the world's most instrumented aircraft engaged in blind flying research. The rear cockpit contained the blind flying displays and during the blind flight it was shielded by a canvas canopy hood to eliminate external references.

**"We both got into the plane, and the hood over my cockpit was tightly closed. I taxied out and took off toward the west in a gradual climb. At about 1,000 feet, I leveled off and made a 180-degree turn to the left, flew several miles, then made another left turn. The airplane was now properly lined up on the west leg of the Mitchel range, so I started a gradual descent, I leveled off at 200 feet and flew level until I passed the fan marker on the east end of the field. From this point I flew the plane down to the ground using the instrument landing procedure we had developed. The whole flight lasted only 15 minutes. So far as I know, this was the first time an airplane had taken off, flown over a set course, and landed by instruments alone."**

***LT. JAMES DOOLITTLE, U.S. ARMY AIR CORPS PILOT***

The first blind flight occurred on September 24, 1929 when U.S. Army Air Corps pilot, Lt. James Doolittle, at the Guggenheim's Full Flight Laboratory at Mitchel Field took off in a specially instrumented Army Air Corp NY-2 Husky aircraft built by the Consolidated Aircraft Corporation with Lt. Benjamin Kelsey as his safety officer and

Crucial to the success of the flight, in addition to the newly developed Kollsman Altimeter and the Sperry Directional Gyro and Artificial Horizon, was the radio range and marker beacon developed by the Bureau of Standards and the special radio receiver with a vibrating reed display built by the Radio Frequency Laboratories.

*Continued on page 7*

# FIRST BLIND TAKEOFF, FLIGHT & LANDING, 1929

## A Joint IEEE - AIAA Milestone

Continued from page 6

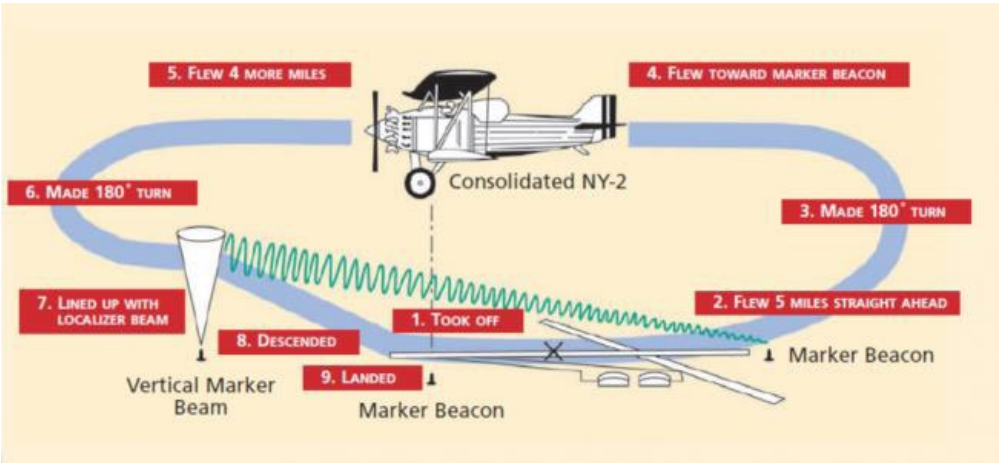

The achievement of the First Blind Flight and Landing was the result of an unusual cooperative effort primarily involving the Daniel Guggenheim Fund for the Promotion of Aeronautics, the U.S. Army Air Corps, the Department of Commerce, the Sperry Gyroscope Company, the Kollsman Instrument Company and the Radio Frequency Laboratories. Other companies, the Pioneer Instrument Company, the Taylor Instrument Company and the Bell Telephone Laboratories contributed as well.

Doolittle's successful blind flight and landing demonstrated that having and being able to use accurate and reliable instruments was the key to safe flying, under near zero visibility conditions and that contrary to the belief of many pilots at the time that being able to fly, "by the seat of my pants," was the more important skill.

Of all the organizations that contributed to the success of Doolittle's flight, were it not for the Full Flight Laboratory established by the Daniel Guggenheim Fund for the Promotion of Aeronautics, Doolittle's achievement that helped pave the subsequent rapid growth of the aviation industry might well not have occurred until several years in the future. Furthermore, it paved the way to the all- weather microwave landing systems that are currently used. This will be a joint designation between the IEEE and the American Institute of Aeronautics and Astronautics (AIAA). The plaque citation summarizing this Milestone achievement and its significance follows:

***On 24 September 1929, the first blind takeoff, flight and landing occurred at Mitchel Field, Garden City, NY in a Consolidated NY-2 biplane piloted by Lt. James Doolittle. Equipped with specially designed radio and aeronautical instrumentation, it represented the cooperative efforts of many organizations, mainly the Guggenheim Fund's Full Flight Laboratory, U.S. Army Air Corps, U.S. Dept. of Commerce, Sperry Gyroscope Company, Kollsman Instrument Company and Radio Frequency Laboratories.***

The milestone plaque will be installed in the Mitchel Field Flight Safety exhibit of the Cradle of Aviation Museum just a few hundred feet from where the flight's takeoff and landing originated. Save the date for the dedication ceremony commemorating the 85th Anniversary of the event scheduled as follows:



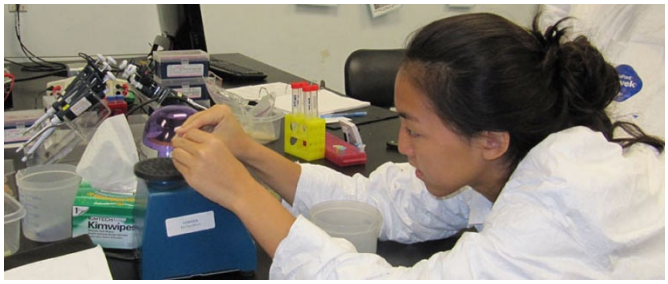

Flight Route for First Blind Takeoff, Flight and Landing

**EVENT:**
First Blind Takeoff, Flight & Landing Milestone Dedication Ceremony

**DATE:**
September 24th, 2014

**TIME:**
11:00 AM

**PLACE:**
Cradle of Aviation Museum, 1 Davis Ave, Garden City, New York, 11530

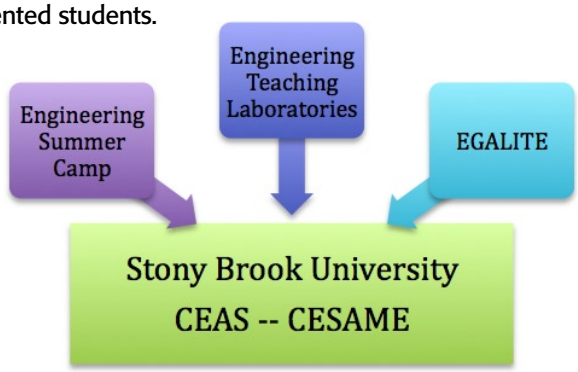


# Electrical and Computer Engineering Outreach at Stony Brook University

*By Mónica Bugallo and Angela M. Kelly*

**A major challenge in the U.S. is the need to build awareness and excitement for engineering careers to help attract the engineers of the future. The College of Engineering and Applied Sciences (CEAS) and the Center for Science and Mathematics Education (CESAME) at Stony Brook University have collaborated to promote student participation and interest in engineering. Many of these efforts are aligned with the recently released *Next Generation Science Standards,*[i] which place emphasis on incorporating engineering design principles in K-12 science education. Several ongoing initiatives at the University have focused on facilitating pre-engineering experiences for secondary students and retaining engineering undergraduates.**

The Engineering Summer Camp[ii] at Stony Brook University hosts high school sophomores and juniors for a two-week residential/non-residential intensive experience. The goal of the camp is to introduce these students to the passion and challenges of electrical and computer engineering. Students engage in hands-on activities such as building fiber optic voice links, line-following robots, and micro-computer-based temperature, humidity, and barometric pressure monitoring systems. They are also exposed to campus life and learn about engineering admissions requirements. One of the most popular aspects of the camp is the group meetings with working engineers from National Grid. Students enjoy meeting with these professionals to discuss pathways to successful and rewarding careers in the field. To date, 93 students have attended the camp and this summer will be its sixth year. Its widespread reputation has resulted in applications exceeding available slots by a 5 to 1 ratio. National Grid has partially sponsored the camp for the past three years by providing scholarships to high-needs & underrepresented students.




An afterschool program, *Engineering Teaching Laboratories*, was piloted this year with Port Jefferson and Mount Sinai School Districts. High school students attend eight weekly two-hour classes. Students are exposed to a variety of activities, from developing apps to building metal detectors and night-lights. There are plans to expand this pilot to offer similar activities to other school districts in the region and New York City. CESAME currently provides *Teaching Laboratories* in biotechnology, Earth science, forensics, chemistry, and physics, welcoming 5,000 secondary students per year to campus.[iii] *The Engineering Teaching Laboratories* will complement current offerings and provide opportunities for middle and high school students to learn engineering skills. These experiences are rarely available in their schools and have the added benefit of exposing students to engineering faculty and researchers.

A new initiative for retaining female engineering undergraduates, known as *EGALITE (Education, Guidance, Advancement, & Learning in Technology & Engineering*),[iv] was also developed this year. This program provides year-round activities including visits to Brookhaven National Labs and other sites, bimonthly group meetings, and information sessions on internships and scholarship opportunities. Engineering women have a forum on campus to network, voice challenges, and enjoy camaraderie in a supportive environment.

*Continued on page 9*

# Electrical and Computer Engineering Outreach at Stony Brook University

Continued from page 8

These collaborative efforts have helped meet the demand for accessible and rigorous pre-college engineering education, as well as the need for programs that increase the retention of undergraduate women engineers. Future initiatives are in the planning stages for offering *Engineering Teaching Laboratories* at Stony Brook's Manhattan Campus, as well as professional development of New York K-12 science teachers to improve their technical engineering skills.

These projects will bring together stakeholders from the University and regional school districts to improve educational outcomes and increase technological talent for participation in a globally competitive, diverse workforce. Long Island engineers and companies are encouraged to join the University to strengthen and expand our outreach efforts and provide role models for the community we serve.

*Mónica Bugallo* is an Associate Professor of Electrical and Computer Engineering at Stony Brook University (monica.bugallo@stonybrook.edu).

*Angela M. Kelly* is an Assistant Professor of Physics and Astronomy and Associate Director of the Science Education Program at Stony Brook University (angela.kelly@stonybrook.edu).

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[i] Achieve, Inc. (2012). *The Next Generation Science Standards*. Retrieved from: http://www.nextgenscience.org/next-generation-science-standards.

[ii] Engineering Summer Camp at Stony Brook University. (2014). Retrieved from: www.stonybrook.edu/cesame/students/EngineeringCamp/engsummercamp.shtml.

[iii] CESAME Science Teaching Centers. (2014). Retrieved from: www.stonybrook.edu/cesame/students/ScienceTeachingCenter/scienceteachingcenter.shtml.

[iv] EGALITE Program at Stony Brook University. (2014). Retrieved from: http://useit.stonybrook.edu/education?q=egalite-view.

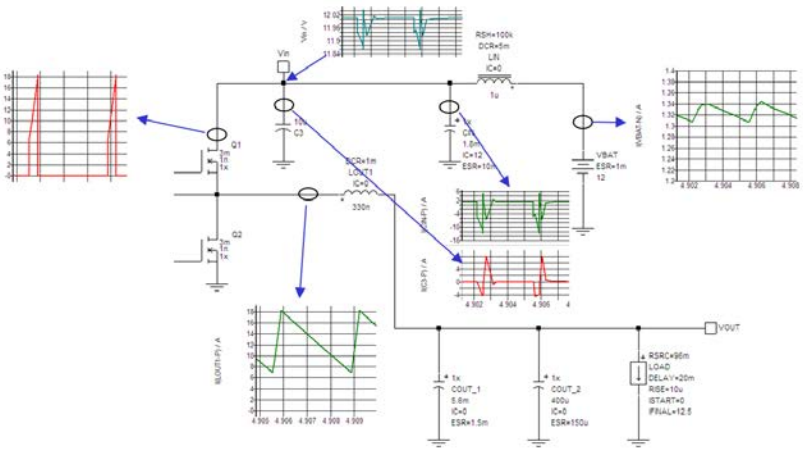
*The Long Island Chapter of the IEEE Power Electronics Society (PELS) and Electromagnetic Compatibility Society(EMCS) are presenting a lecture titled:*

# The Causes and Impact of EMI in Power Systems

## Wednesday, April 2, 2014 at 6:00 PM

(This lecture is free and all are invited. Pizza and soda will be served.)

## BY CHRIS SWARTZ, VICOR



### WHO SHOULD ATTEND:

Technical personal involved with power supply design, EMI mitigation/measurement, power system architects and systems engineering.

### ABSTRACT:

Attenuating conducted EMI can be complex and difficult, especially when the root cause is not obvious. This lecture provides a comprehensive understanding of these root causes, their impact and their mitigation.

The lecture begins with the basics of EMI types and categories, followed by coupling mechanisms and measurement standards. Conducted EMI measurements and test setups are also explored. As an illustrative example, the characterization of a simulated Buck converter and a real-world isolated DC/DC converter are examined showing noise origins, paths and characterization.

Tips on converter selection to help achieve lower EMI are discussed. Circuit simulations are provided to illustrate insertion loss, followed by methods to determine stability of a given input filter network with a particular DC-DC Converter. In addition to classic passive differential and common-mode filter schemes, active EMI filter topology is also explored. The lecture concludes with discussions on case histories and troubleshooting topics.

### SPEAKER BIO:

The author, Chris Swartz has 30 years of experience in the design and implementation of power electronics and systems. His career includes 10 years with Motorola, 14 years with Emerson Network Power (formally Artesyn Technologies), 2 years with Transim Technologies & 4 years in his present position at Vicor as a Principal Engineer. Chris, a member of the IEEE, is married and a proud parent of one daughter.

### LOCATION:

This lecture will be held at Telephonics located at 815 Broad Hollow Road in Farmingdale. Pizza and soda will be served starting at 6:00 PM, and the presentation will begin at 6:30 PM. (Please try to join us early and enjoy networking with your colleagues.) The lecture is scheduled to last 60-90 minutes. ***The lecture is free and all are invited, however registration is required. A photo ID is needed to enter the facility . Please enter the facility through the front entrance. Please leave your cell phone in your car because cameras are not permitted in the facility.***

### REGISTRATION:

Registration is required, and is available online only. Please visit the IEEE Long Island Website **www.IEEE.LI,** click on the calendar page, then the registration link and fill out the form.

### LECTURE COORDINATOR

**James Colotti,** *PELS Chairman for the IEEE LI Section* (pels@IEEE.LI)

**Alberto de Leo,** *PELS Vice Chairman for the IEEE LI Section* (pels@IEEE.LI)

**Santo Mazzola**, *EMC Chairman for the IEEE LI Section* (emc@IEEE.LI)

**Robert DeLisi**, *EMC Vice Chairman for the IEEE LI Section* (emc@IEEE.LI)

The IEEE Long Island Section and the Professional Activities Committee for Engineers (PACE) are presenting the following seminar:

# "Health Care Seminar"

## by Matthew L. Mandell, CFP®, CRPC®, Ameriprise

### Tuesday, April 8th, 2014 at 6:00 PM

***This seminar is free and all are invited.***
***Food and Refreshments will be served at 6:00pm, and lecture starts 6:30pm***

**ABSTRACT:** Rising health care costs and what it could mean for you? How much will you need to save for health care expenses? Uncertainties abound from how long you will live, when you will retire, are you going to have Employer Health benefits, is Medicare or other insurance adequate for you, how about out-of-pocket expenses, is Social Security going to be there, how the economy is going health care inflation and what are your Family & dependent responsibilities? All these questions need to be answered!

The purpose of health insurance is to shift the major health financial risks to insurance companies. Without adequate formal health insurance protection, you are, in reality, self-insuring. You'll pay out of your own pocket the cost of such financial calamities as an auto accident, a serious illness or the loss of a home due to injury. These expenses could demolish your household finances and derail the accomplishment of your life's dreams. Health Insurance coverage costs money and that cost is rising. So you need to buy health insurance wisely: **the right kind, the right amount, at the right time, at the best price.**

This seminar offers you the framework for better understanding of your health care needs. According to the U.S. Department of Health and Human Services if you live to age 65 you are expected to live past the age of 83. Will you need long-term care? Financial planners recommend buying long-term care insurance while you are in your fifties. Premiums are still reasonable at this age & you run less risk of failing to qualify due to deteriorating health.

**SPEAKER'S BIO:** **Matthew L. Mandell** received his BS in Finance from the Pennsylvania State University. He has been building his practice at Ameriprise Financial for over nine years. He has earned the title of **Certified Financial Planner** and **Chartered Retirement Planning Counselor**, qualifies as an **Advanced Financial Advisor**, and is a qualifying member of the **Million Dollar Round Table Organization**. He and his partner Brian White have a **Platinum Financial Services Practice**, and work with clients to develop a custom tailored financial plan pertaining to their life goals. They specialize in retirement planning, personalized investment advice, wealth preservation, & protection planning.

**LOCATION:** This lecture will be held at **NYU-Poly, Long Island Graduate Center**, 105 Maxess Rd, Melville, NY: on the second floor within Poly's space. Please enter at the back of the building, the most northerly (North entrance. The elevator back door will bring you up to the second floor, from which you will walk a few steps to the Poly entrance. Food & refreshments will be served starting at 6:00 PM, and the presentation will begin at 6:30 PM.

**REGISTRATION:** Registration is required, and is available online only. Please visit the **Calendar Page** of the **IEEE Long Island website** www.IEEE.LI/calendar, click on the registration link, and fill out the form.

**IEEE SEMINAR COORDINATOR:**
**Mr. Nikolaos Golas**, Chair PACE (Professional Activities Committee for Engineers), IEEE LI Section

Farmingdale State College
State University of New York

Renewable Energy & Sustainability Center at Farmingdale State College

APRIL 23, 2014

# INTRODUCTION TO SMART METERS SEMINAR

The Renewable Energy & Sustainability Center (RESC) at Farmingdale State College presents an ***Introduction to Smart Meters*** by Dr. M. Nazrul Islam and PSEG Long Island. This event is sponsored by the Renewable Energy & Sustainability Center, IEEE PES, IEEE-LI and the Educational Activities Committee of Region 1.

## DETAILS:

This seminar cover subjects in power & energy engineering and is designed for home owners as well as individuals working for power companies. It will highlight the fundamental concepts of smart meter technology along with their features The talk will also touch upon the privacy and security issues related to smart meters.

**Date:** April 23, 2014
**Time:** 6:30 pm to 8:00 pm
**Cost:** FREE
**PDH:** 1 Hour (available to P.E.'s upon request)
**Location:** Lupton Hall - Room T101

## TO REGISTER:

Visit the link below and choose Seminars under the Training and Seminars tab. **www.farmingdale.edu/resc**

## LOCATION:

**Farmingdale State College,**
2350 Broadhollow Road, Farmingdale, NY 11735


## SPEAKER: DR. M. NAZRUL ISLAM

M. Nazrul Islam is an Associate Professor and Program Coordinator of the Security Systems program at Farmingdale State College. His research interests include optical communication, wireless communication, digital image processing and solidstate devices. He authored/co-authored more than 140 publications in refereed journals and conference proceedings. He has recently received a patent on optical pattern recognition system. He worked as the PI/Co-PI of several research projects.

Prior to joining Farmingdale, Dr. Islam worked at Old Dominion University, University of South Alabama, University of West Florida, and Bangladesh University of Engineering and Technology. He is a Senior Member of SPIE and a Senior Member of IEEE.

## DIRECTIONS:

**Northern State Parkway** - to Exit 40 (Route 110). Travel south on Route 110 for approximately 3 miles. On the right hand side you will see the Broad Hollow Bioscience Park. Turn right into the campus at the College sign.

**Southern State Parkway** - to Exit 32 - (Route 110). Travel north on Route 110, approximately 3 miles. Turn left at the College sign onto the Melville Road. Proceed approximately 1/4 mile to College entrance. Turn right into the College.

**Long Island Expressway** - to Exit 49 South (Route 110). Travel south on Route 110, approximately 2 miles. On the right hand side you will see the Broad Hollow Bioscience Park. Turn right into the campus at the College sign.

## SPONSORS:

RESC
IEEE-LI
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Educational Activities Committee

IEEE 60th Anniversary 1953 2013
IEEE PES Power & Energy Society

## PARTNERS:

PSEG LONG ISLAND

**Renewable Energy & Sustainability Center**
smartgrid@farmingdale.edu www.farmingdale.edu/resc

Renewable Energy & Sustainability Center at Farmingdale State College



IEEE Advancing Technology for Humanity

IEEE AESS

AIAA Long Island Section
American Institute of Aeronautics and Astronautics

# HOFSTRA UNIVERSITY SPRING LECTURE SERIES

## *Current Challenges in Space Exploration: Commercial and International*

PRESENTED BY THE AMERICAN INSTITUTE OF AERONAUTICS AND ASTRONAUTICS LONG ISLAND SECTION

Co-sponsored by IEEE Aerospace and Electronic Systems, AFA, IIE, ASME, and
The Hofstra University School of Engineering and Applied Science

**DATE:**
Thursday, April 24, 2014

**LECTURE 2:**
***"COMMERCIAL ISS CARGO DELIVERY AT ORBITAL"***

**PRESENTED BY:**
**Robert T. Richards**
*Senior Vice President, Human Spaceflight Systems,*
*Advanced Programs Group, Orbital Sciences Corporation*

**LOCATION:**
**Hofstra University,** *Student Center Theatre*
Hempstead, NY 11549

**TIME:** 6:30 PM - Social Time, 7:00 PM - Presentation

**COST:** Free *(Fee for PDH credits, if available)*

The successful completion of Orbital's first Cygnus mission to the International Space Station (ISS) marks the beginning of an era of competitive commercial cargo delivery to low earth orbit. Mr. Richards will review the Cygnus spacecraft, the Antares launch vehicle, and the Mid-Atlantic Regional Spaceport and discuss the multiple relationships among these projects and how they came together to create a new launch site, a new launch vehicle, and a highly capable spacecraft.

Mr. Richards is responsible for Orbital's Human Spaceflight business development activities. This work extends the ISS Cargo Resupply Services already under contract to NASA including Commercial Orbital Transportation Services (COTS) and Commercial Resupply Services (CRS). The COTS/CRS program involves full-scale development and flight demonstration of a commercial cargo delivery system for the ISS, and will complement Russian, European, and Japanese vehicles. Orbital's COTS solution includes the Antares medium-class launch vehicle, the Cygnus cargo delivery spacecraft, and mission operations. Previously, Mr. Richards managed successful launches of 39 Pegasus missions and 7 Taurus missions. These vehicles continue to provide commercial low cost launch of small science satellites for NASA. He is an Associate Fellow of the AIAA, an Academician of the IAA, and has received the National Medal of Technology, and the National Air and Space Museum Trophy for technical achievement as part of the Pegasus Development team.

**RESERVATIONS REQUESTED RSVP BY April 23, 2014**
to: **David Paris** at:
**davidsparis@optonline.net** or **(516) 458-8593**

***ASME will offer PDH credits if arrangements can be made. Check when you register.***

**Directions:** The Student Center is on the North Campus of Hofstra University in Hempstead. Take Meadowbrook Parkway Exit M4, west onto Hempstead Turnpike (Route 24). After about 1 mile, turn right into the Main North Campus entrance. Park in first or second lot on your left. Walk south towards Hempstead Tpke. to the Student Center. After entering the Student Center, look for Student Center Theatre and/or AIAA signs.
**Info at:** www.hofstra.edu/directions



IEEE Advancing Technology for Humanity

***National Geographic Live & the IEEE Long Island Section's Professional Activities Committee for Engineers (PACE)*** are having a joint lecture titled:

# Mars Exploration with NASA Engineer Kobie Boykins

## Monday, May 19, 2014 at 7:00 PM

### ABSTRACT/SPEAKER'S BIO:

**Kobie Boykin** is a dynamic young Staff Engineer at **NASA's Jet Propulsion Laboratory** in Pasadena, CA. Kobie is on the front lines of the exploration of **Mars**. Boykins designed the solar arrays that power the **Mars** exploration rovers, **Spirit** and **Opportunity** exploring the surface of the red planet long beyond their designed lifetimes. Most recently, Boykins was responsible for the design of actuators on **Curiosity**, the **Mars Science Laboratory**, which safely landed on **Mars** on August 6, 2012. Join us and ask Kobie about **Mars**, **rovers**, **space exploration**, the new revolutionary landing method called the "**skycrane**" that was used on **Curiosity** and how **Engineering** and **Physics** plays an important role in his job.

### LOCATION:

This lecture will be held at the **Cradle of Aviation Museum**, Charles Lindbergh Blvd in Garden City. Their website can be found at **www.cradleffaviation.org**

### DIRECTIONS:

Meadowbrook Parkway to exit M4, follow signs to Museum Row/Coliseum which will put you on Charles Lindbergh Blvd, stay on Charles Lindbergh Blvd. to the second traffic light and turn right into the parking lot. For additional directions and map check:
**www.cradleofaviation.org/plan_your_visit/directions.html**

### REGISTRATION/COST:

The lecture is **FREE** but reservations are required. Call **516-572-4066 (M-F from 10AM- 4PM)** to reserve your seat. More info online at:
**https://www.cradleofaviation.org/plan_your_visit/event_calendar.html/event/2014/05/19/free-lecture-mars-exploration-with-nasa-engineer-kobie-boykins**

### IEEE SEMINAR COORDINATOR:

**Mr. Nikolaos Golas**, Chair PACE (Professional Activities Committee for Engineers), IEEE LI Section

# NOMINATIONS SOLICITED FOR 2014 IEEE REGION 1 AWARDS

***By Jesse Taub - Awards Nomination Committee Chairman***

Region 1 of the IEEE gives awards to its members in a variety of technical, managerial and professional categories which are described below. Nominations forms and other instructions can be found on the IEEE website: **www.ieee.org** and then ask for "Region 1 Awards" in the search box.

Please send your nominations to Jesse Taub, the Section's Awards Nomination Committee Chair at **jjtaub@aol.com**. They will be reviewed by the Section's Award Committee. Nominations must be received on or **before May 15, 2014**. If you have any questions, please call **631-420-1564**

## IEEE REGION 1 AWARDS

**PURPOSE:** The purpose of the Region 1 Awards Program is to publicly recognize professional and technical excellence and major accomplishments and contributions made by Region 1 IEEE members.

**AWARD CATEGORIES:** *There are six categories for the Region 1 Awards:*

**1A. NEW TECHNICAL CONCEPTS IN ELECTRICAL ENGINEERING**

For significant patents, for discoveries of new devices or applications, and for significant reductions in components or processes.

**1B. ELECTRICAL ENGINEERING PROFESSIONALISM**

For personal, high level leadership in research and design performance in support of all phases of the Electrical Engineering Profession.

**1C. PROMOTION OF SELF-DEVELOPMENT FOR PRACTICING ELECTRICAL ENGINEERS**

By arranging courses, seminars, and tutorials to enhance the educational level and the competence of practicing electrical electrical engineers.

**1D. ENHANCEMENT OF IEEE IN INDUSTRY AND COMMUNITY SERVICE**

For outstanding service to the IEEE at the Chapter, Section, Region, and national level, and for major contributions to the industry and to the community.

**1E. ELECTRICAL ENGINEERING MANAGEMENT**

For managerial excellence in organization, leadership, design, and development.

**1F. ELECTRICAL ENGINEERING SUPPORT FOR STUDENT ACTIVITIES**

For improving communications between IEEE and Student Branch or Student Group; for support and service to a Student Branch or Student Group; for service and leadership to the student community.

**1G. THE WILLIAM TERRY DISTINGUISHED LIFETIME SERVICE AWARD**

This award is intended to recognize those whose personal e orts have provided leadership, creativity, guidance, hard work, and inspiration in a wide range of IEEE activities over a long period of time.

# The Long Island Section is proud to sponsor the School and Business Partnership of Long Island (SBPLI) to help support the F.I.R.S.T. Robotics Competition (FRC).

*IEEE Long Island Section Chair, John Schmidt presents $1000 check to SBPLI.*

Each year, FIRST provides a new robot game plan, a "problem to be solved" and a kit of parts to teams of high school students. Under strict rules, limited resources, and time limits, teams of 25 students or more are challenged to raise funds, design a team "brand," hone teamwork skills, and build and program robots to perform prescribed tasks against a field of competitors. It's as close to "real-world engineering" as a student can get. Volunteer professional mentors lend their time and talents to guide each team.

## *By being part of FIRST Robotics Competition Students get to:*

- Learn from professional engineers
- Build and compete with a robot of their own design
- Learn and use sophisticated software and hardware
- Compete and cooperate in alliances and tournaments
- Earn a place in the World Championship
- Qualify for over $19 million in college scholarships

IEEE *Advancing Technology for Humanity*

FRC FIRST® Robotics Competition

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**F.I.R.S.T.**: For Inspiration and Recognition of Science and Technology. *(Youth Organization founded by Dean Kamen)*

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IEEE *Advancing Technology for Humanity*

# IEEE LISAT2014

*10th Anniversary Long Island Systems, Applications, and Technology Conference*

**FRIDAY, MAY 2, 2014**

**7:30 AM sign-in • 8 AM - 5PM**

Farmingdale State College
*State University of New York*
*Rt. 110, Farmingdale, NY*

## THREE ALL-DAY PARALLEL TECHNICAL TRACKS

*Preliminary Program. See LISAT website for latest updates: www.IEEE.LI/lisat*

The IEEE Long Island Section, in cooperation with its technical society Chapters and IEEE Region 1, will hold the 2014 Long Island Systems, Applications and Technology Conference (LISAT2014) on Friday, May 2, 2014 at Farmingdale State College of the State University of New York.

This, our tenth annual conference, will feature presentations that highlight new and interesting work on a variety of electronic systems, technologies and applications - most of which are Long Island based, as well as a student paper track. We will continue to have a full-day **Professional Development Track** (ewh.ieee.org/conf/lisat/ceus.pdf) which will provide attendees up to 0.6 CEUs (6 PDHs) for three (3) two-hour sessions.

### The LISAT AUTHOR'S KIT and CALL FOR PAPERS

are available for download at:
**http://ewh.ieee.org/conf/lisat/**

### PRODUCT APPLICATIONS TRACK

Four lectures on practical applications of tools and equipment. Go to **www.IEEE.LI/lisat** for details

### POSTER SESSION

Authors will be available for one-on-one discussions about their research topics.

### EXHIBITS HALL

See exhibits from local technology companies, universities,robotics-competition winners, and professional societies

**For additional information on LISAT2014 please contact:**

**Dr. Charles Rubenstein**, Pratt Institute, Conference Chair
*c.rubenstein@ieee.org*

**Dan Rogers**, Telephonics, Conference Co-Chair
*drogers@ieee.org*

**Dave Mesecher**, Northrop Grumman Aerospace Systems, Conference Co-Chair, *d.mesecher@ieee.org*

**LISAT 2014 Technical Program Committee**

**Dr. Ronald Pirich**, Retired, Northrop Grumman Aerospace Systems, Chair, *rpirich@gmail.com*

**Jesse Taub**, Independent Consultant, Co-Chair
*jjtaub@aol.com*

**For information on exhibiting at LISAT2014 please contact:**

**Jaime Lima**, Telephonics, LISAT Exhibits Chair
*lima@telephonics.com*

*For additional information on the Special P.E. Program, Continuing Education Units (CEUs), or Professional Development Hours (PDHs) please check the CEU Guidelines and/or contact:*

**Matt Nissen**, Waldron Engineering & Construction, LISAT Education Chair, *matt.nissen@ieee.org*

REGISTRATION AND OTHER INFO AT LISAT WEBSITE:
**www.IEEE.LI/lisat**

AN IEEE-USA EVENT

# New NEB

IEEE NewNEB DC POWER UTILITY CONFERENCE & EXHIBITION

FOR MORE INFORMATION & REGISTRATION
Visit our web site:
newneb.org
Paper Submissions Em ail:
Papers@neighboring

## IEEE New NEB DC Power Utility Conference & Exhibition

*October 27th - 29th 2014*

**Reliable DC Power – NE RC in the 21st Century**

"A conference uniquely devoted to the reliability of DC power in an electric utility environment"

**Clarion Hotel & Convention Center - Long Island**
**3845 Veterans Memorial Highway, Ronkonkoma, NY 11779**

**AI Members - Utility, Government or Educational Attendee - $225.00pp**
**Non - IEEE Members - Utility, Government or Educational Attendee - $295.00pp**
**Includes all program activities food & drink for all three days!*
**Lodging & Transportation Additional*

## SCOPE

The AI New NEB DC Power Utility Conference & Exhibition is devoted to those topics important to the utility DC Power industry. Products and developments featured include but are not limited to batteries, battery chargers, Control system, diagnostic and testing, communications capabilities and much more.

### A CONFERENCE JUST FOR YOU

OUR USER FORUM MAKES NEWNEB UNLIKE ANY OTHER DC POWER CONFERENCE

**Important DATES**

Papers to be submitted by 7/7/14
Paper acceptance by 8/4/14
Final papers submitted by 8/25/14
Accepted Paper notifications 9/8/14
Power-Points submitted by 9/22/14

**User's Forum:**

Uniquely designed for electric utility users only... NO commercial or vendor influence! The user's forum will consist of a session where specific topics of importance to the Utility users will be discussed. The User's Forum will be led by utility DC professionals Who will provide guidance and support to the forum. Further, a moderator will Be used to ensure that the meeting is kept on tract and garners the appropriate Questions for further debate. This will allow the users to pose relevant questions And concerns to the suppliers present and to the regulators in the form of follow up Correspondence sent by the AI New NEB management and to the industry at large Through neighboring and its regular communications.

This year's conference is focused on system reliability and the influence of the NERC requirements in shaping The utility DC system. We will draw from the industry at large, regulators, rule makers, utilities, manufacturers, educational institutions, and consultants to provide qualified speakers.

AI/NE MA PEN 5 working group session added on Wednesday morning October 29, 2014. Be sure to register for This important event. This is a very exciting and much needed update effort for NE MA Pen This document has Not been revised or even reviewed since 2003!

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# 8th INTERNATIONAL CONFERENCE ON ETHICS IN BIOLOGY, ENGINEERING & MEDICINE

SUNY DOWNSTATE Medical Center

ICEBEM' 2015


www.downstate.edu/orthpaedics/bioethicsconf2015

## Call for Abstracts

The program committee is seeking abstracts submission of paper relevant to this conference, which will be evaluated for inclusion in the final agenda as Oral presentations. The Deadline for abstract submission is **November 26, 2014.** Notification of abstract acceptance December 15, 2014. Selected papers will be published in the Ethics in Biology, Engineering, and Medicine: An International Journal.

An approximately 200-300 word single spaced abstract, text only, should be typed in font size No. 12. It should be typed on 81/2 x 11-inch paper with one-inch margins. The preferred way is to E-mail your abstract, followed with a hard copy. In your cover letter, please identify the corresponding author with complete mailing address, telephone number and E-mail address.

### SUGGESTED TOPICS FOR PRESENTATIONS

- ETHICS IN BIOENGINEERING
- ETHICAL ISSUES IN BIOMEDICAL RESEARCH
- ETHICS IN NANOBIOTECHNOLOGY
- ETHICS IN GENETIC ENGINEERING and CLONING
- ETHICS IN STEM CELL RESEARCH
- RESPONSIBLE CONDUCT IN RESEARCH
- ETHICS IN SYNTHETIC BIOLOGY
- ETHICS IN MEDICAL RESEARCH
- MEDICAL ETHICS & HEALTH POLICY
- ETHICAL ISSUES IN TISSUE ENGINEERING
- NEUROETHICS
- PRIVACY AND BIOINFORMATICS
- ETHICS IN BIOBANKS
- ETHICS IN GLOBAL HEALTH
- ETHICS IN DENTISTRY

### Conference Chair:

**Subrata Saha**, PhD
SUNY Downstate Medical Center
EBM@downstate.edu
Office- (718)-613-8652
Fax - (718)-270-3983

### Keynote Speakers:

**Arthur L. Caplan**, PhD
New York University, New York
Mildred Z. Solomon, Ed.D
The Hastings Center, New York

### Invited Speakers:

**George Khushf**, PhD
University of South Carolina

**Kenneth R. Foster**, PhD
University of Pennsylvania

**Wade Robison**, PhD.
Rochester Institute of Technology

### Registration:

(Before March 1st, 2015)
Registration Fee*: $200
One-Day Registration
(does not include banquet): $150
Student Registration:* $70
Guest Banquet Ticket: $50

(After March 1st, 2015)
Registration Fee*: $250
One-Day Registration
(does not include banquet): $200
Student Registration:*$90
Guest Banquet Ticket: $50

### Conference Site

SUNY Downstate Medical Center
450 Clarkson Avenue
Brooklyn, NY 11203

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www.hindlepowerinc.com

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# IEEE ResumeLab

Helping IEEE members gain a competitive edge in the employment process.

**IEEE ResumeLab is an online service that allows IEEE members to develop a resume or curriculum vitae using specialized tools tailored for each step of the job seeking process.**

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- Record custom video messages for potential employers.

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- Upload & organize your past work to present to potential employers.

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- Publish & share everything you create on a publicly viewable website.

IEEE

*ResumeLab is available to IEEE members of any grade at no additional cost. Some features require a computer webcam and high-speed internet connection.*

**Visit IEEE ResumeLab to learn more - www.ieee.org/resumelab**

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Had a resume sitting on a shelf for a while? Get tips on how to refine it by using the **Resume module**

Use the **Skills Assessment module** to record your profession specific skills and level of expertise through education and experience.

The Pulse of Long Island is produced by the Long Island Section of the **Institute of Electrical & Electronic Engineers**. It is published monthly except July and August.

Nikolaos Golas, *Editor*
*pulse@IEEE.LI*

Anthony Giresi, *Graphic Designer*
*pulse@IEEE.LI*

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## *Let Us Hear From You*

The ***PULSE*** encourages letters to the editor. Members of the IEEE Long Island Section are encouraged to write in about PULSE articles or about other topics of interest to Long Island Engineers. While the IEEE Long Island Section greatly appreciates feedback, we cannot guarantee that all letters will be answered or published. Please direct comments to *pulse@IEEE.LI* or to a Section officer.



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