THE PULSE OF LONG ISLAND IEEE

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**Chairperson's Message by Jon Garruba,** chairman@IEEE.LI

The spring is the busiest time of the year for our section. While our first major event, the Awards banquet, has passed. There are still three important upcoming events planned for May, the LISAT Conference, Entrepreneur's Day, and a Government activities and involvement meeting. Each of these unique events has something to offer all section members. Mark your calendars and come out and participate.

This year's Awards Banquet was held April 7th. I hope everyone who attended enjoyed it as much as I did. It was great to get together as a section and network with members I don't frequently get to see. In addition, Robert Lohneiss of Northrop Grumman gave a fascinating presentation on the BAMS UAS (Broad Area Maritime Surveillance Unmanned Aircraft System). I'd like to thank the section officers one last time for the all their hard work in organizing the banquet, and congratulate all the awardees for their outstanding contributions.

The LISAT (Long Island Systems, Applications and Technologies) Conference is approaching fast, it will be held Friday, May 7, 2010 at Farmingdale State College of the State University of New York. The conference will feature presentations organized in three all day technical tracks, Systems, Applications, and Technology. In addition, there is a Continuing Education track on electrical distribution that provides 0.6 CEU credit, and a Product Applications track. I look forward to seeing you at the LISAT conference this year. The more people, who participate, contribute and attend this event the better we are all able to generate and promote success for Long Island. For the latest on the LISAT conference, see ***www.ieee.li/lisat***.

The very next day after LISAT is Entrepreneurs' Day! This new event is being hosted by the Region 1 southern area sections, and will be held on May 8th at Monmouth University, West Long Branch, NJ. I am personally very excited about this event and am looking forward to learning about the Federal grant opportunities available for entrepreneurs. Although this event may be a long drive for some of our members, if you have ever thought about starting your own company I'm sure it will be more than worth it. Contact me if you are interested in attending, I have organized a car pool for members who wish to attend. More information is available on Entrepreneurs' Day at http://www.njseminar.org.

A few weeks later, on May 27th the Section will be hosting a Government activities and involvement discussion at Briarcliff College in Bethpage. Senior Legislative Representative for IEEE-USA, Russ Harrison, will lead the discussion on what's going on in Washington, how it will impact engineers and what we all can do about it. We'll discuss the economy, immigration, offshoring, alternative energy and anything else you're worried about. Join us and help shape future Government policies that not only affect the engineers who create them, but also the consumers who use them. Further information on this event is available in this issue of the Pulse.

May is shaping up to be an exciting month, let's get out and innovate. To that end, if you have any suggestions, contributions, or if you would like to become more actively involved in ExCom or IEEE as a whole, please contact me at: chairman@IEEE.LI

# CALENDAR OF IEEE EVENTS

## MAY 2010

**5** IEEE, Engineering in Medicine & Biology Society presents:
**Microfluidics**
Speaker: Dr. Molly Frame
Location: Stony Brook University
12:50 PM

**5** **Long Island High Tech Incubator (LIHTI) presents**
**SALES TRAINING & MARKETING**
**Speaker: Adrian Miller**
Location: 25 Health Sciences Drive
Sony Brook, NY
12:00- 1:30PM

**7** IEEE **LISAT**
Farmingdale State Collage
***State University of New York***
***Rt. 110, Farmingdale***
***Roosevelt Hall***
***7:30AM sign-in; 8 AM start***

**8** IEEE Region I
**Southern Area's Entrepreneur's Day**
Monmouth University
West Long Branch, NJ
**Targeted to engineers who wish to be entrepreneurs (see link for details)**

**13** **IEEE, Antennas and Propagation Society presents:**
Topic: **MM WAVE COMMUNICATIONS, IT'S TIME HAS COME**
Speaker: Wayne Pleasant
Location: Telephonics, Farmingdale, LI
Refreshments **5:30 PM**, Lecture **6:00 PM**

**13** IEEE, Power & Energy Society and Industry Applications Society presents:
**Topic: LIPA HOLBROOK 138KV SUPER-CONDUCTOR PROJECT**
Speaker: Tom Welsh
Locating: LIPA-National Grid, Hicksville
Refreshments 6:00 PM, Lecture 6:30 PM

**24** **ExCom Meeting**
Location: **Telephonics, Farmingdale, LI**
Dinner **5:45 PM, Meeting 6:15 PM**

**27** **IEEE, Long Island Section Presents:**
**WHAT CONGRESS IS DOING TO ENGINEERING**
**speaker: Russell Harrison**
Location: Briarcliff College
Bethpage, NY

## June 2010

**2** **IEEE, Microwave Theory & Techniques (MTT) Soc.** presents
**AN 8X8 KA-BAND ANTENNA ARRAY WITH A HIGHLY INTEGRATED TX FRONTED MODUKLE**
Speaker: Winfried Simon
Location: L-3 Comm. Narda Microwave, Farmingdale, NY
Refreshments 6:00 PM, Lecture 6:30 PM

***Contents:***




# THE PULSE OF LONG ISLAND

Produced by the Long Island Section of the Institute of Electrical & Electronic Engineers Email: pulse@IEEE.LI

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**Alison Rubin, Associate Editor**




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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The Consultants Network of LI maintains a referral service of Engineering, Computer, Managerial & Technical Professionals. Call or write for more information. There is no charge to the client for this service.

Voice Mail: 516-379-1678

IEEE Consultants Network of Long Island
PO Box 411,Malverne NY 11565-0411
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# *2010 Annual Awards Ceremony*

Long Island Section Awards and Region 1 Awards were presented; three new IEEE Fellow Awardees were honored by the Long Island Section. Our keynote speaker this year was Robert F. Lohneiss Jr., Chief Engineer, Battle Management & Engagement Systems, Northrop Grumman Corp - April 8th at the Hyatt Regency, Hauppauge. He praised engineers and the IEEE in particular for our part in Long Island's technological leadership. Alluding to the high-tech history of Long Island and the growth of Defense Department technological industries, he discussed how Unmanned Aircraft Systems (UAS) are changing the battlefield dramatically by improving capabilities and reducing casualties exponentially.

*(Left- from left to right) Bob Lohneiss with Long Island Section Chairman Jon Garruba*

Certificates and plaques were presented to Long Island Section volunteers in recognition for their service.

Visit the IEEE Long Island Section website at: www.IEEE.LI and click on the **Awards** C**ommittee** page to view the view the Awards Program and additional images of the event.


*(Right- from left to right) Arthur Williams, John Peterson, Nick Golas, Jesse Taub, Irwin Weitman, Steve Rubin, Bryan Tropper, Vic Zourides, Matt Nissen, Jon Garruba, Lou Luceri, Charles Rubinstein, and James Colotti*

## 2010 IEEE LONG ISLAND SECTION AWARDS BANQUET SPONSORS HONOR ROLL:

BAE Systems, ITT, Lockwood, Kessler & Bartlett, National Grid, Northrop Grumman Corporation, Retlif Testing Laboratories, Stony Brook University, Telephonics Corporation, Advanced Technical Marketing, Agilent Technologies, Brookhaven National Laboratory, Contech Marketing, Dilworth & Barrese, LLP, Narda Microwave East, NYU-Poly LI Graduate Center, Omnicon Group, Texas Instruments

## SPECIAL THANKS TO OUR AWARDS NOMINATION COMMITTEE:

Jesse Taub, Chairman, Nikolaos Golas, Dr. Ralph James, Alfred Lopez, Rod Lowman, Velio Marsocci, Richard Mohr Arlene Zhang

## Long Island Section Awards

**Alex Gruenwald Award: Mr. Santo Mazzola**, BAE Systems, "*for Exceptional Dedicated Efforts towards Strengthening the IEEE Professional and Technical Activities on Long Island"*

**Harold Wheeler Award: Mr. Bert Moskowitz**, Telephonics Corp. **"***for Many Innovative Contributions to the Successful Management of Engineering Programs*

**Athanasios Papoulis Award: Prof. John F. Hennings**, Webb Institute, "*for Innovative Teaching of Electrical Engineering and Dedication to Student Development"*

**Charles Hirsch Award : Mr. Thomas R. Neiland**, Telephonics Corp. "*for the Development of a Single-slot VME Card for Front-end Radar Signal Processing"*

**Outstanding Student Chapter Award: Stony Brook University Student Chapter**, **"***for Promoting Many Activities that Assist Students to Become Effective Engineering Professionals"*

**Friend of the IEEE Long Island Section Award: BAE Systems Inc. "***for Long Term Encouragement and Financial Support of IEEE Long Island Section Activities"*

## Region 1 Awards

**Mr. Kenneth C. Baron**, BAE Systems Inc., "*for Technical Innovation in Optimization of Battle-Space Image Processing for Dual Use Data Compression and Automatic Focus"*

**Mr. Niel F. Miele**, Lockwood, Kessler & Bartlett, Inc.,*" for Managerial Excellence in Overall Managerial Excellence in Organization, Leadership, Design and Development within an Engineering Organization"*

**Mr. Nikolaos Golas**, Telephonics Corp., *"for Outstanding Support for the Mission of the IEEE in OutstandingService to the IEEE Long Island Section by Single-handedly Starting a Chapter of the Instrumentation and Measurement Society and for Selflessly Undertaking Many Other Section Tasks"*

**Mr. Ronald G. Pirich**, Northrop Grumman Corp., "*for Technical Innovation in Contributions to Aerospace Technology and the Modeling of Electromagnetic Effects of Systems Integration"*

**Mr. Brian J. Quinn**, Verizon, "*for Outstanding Support for the Mission of the IEEE in Outstanding Contributions to the IEEE Long Island Section and its LISAT Conference while Serving as Treasurer"*

**Mr. Richard R. Ronde**, BAE Systems Inc., "*for Managerial Leadership in the Development of Antennas and Facilitating Borderless Operations amongst BAE Systems, Sanders and Wheeler-Hazeltine Legacy Antenna Technology Groups"*

**Mr. Michael L. Schreiber**, Telephonics Corp., "*for Technical Innovation in Outstanding Contributions to the Development of Advanced Waveform Generators for Identification Friend or Foe (IFF) Systems"*

**Mr. David Sterner**, Honeywell Corp (Posthumously), "*for Contributions to the Profession through Exemplary Service as the Long Island Section Pulse Newsletter Chair"*

**Mr. Robert Spira**, Ward Melville High School, **IEEE EAB Pre-University Educator Award "***for Inspiring and Motivating High School Students through Imaginative Teaching and Extracurricular Activities"*

## Special IEEE Awards:

**Mr. Thomas Roser,** Brookhaven National Laboratory, **IEEE Fellow Award "***for Contributions to the Design of Magnets in Particle Accelerator Application"*

**2009 Supporting Friend of IEEE Member and Geographic Activities Award** to: **InterDigital Communications Corporation** "*for continued Support of IEEE Long Island Systems, Applications and Technology Conference (LISAT) by providing significant financial and technical contributions over five consecutive years"*

**2009 Supporting Friend of IEEE Member and Geographic Activities Award** to: **Telephonics Corporation** "*for continued support of IEEE Long Island Section by providing significant contributions to the Section and Chapter meetings, as well as encouraging Telephonics employees to serve as IEEE volunteers"*

**IEEE PES Long Island Chapter - Outstanding Engineer Award: Mr. Steven Rubin**, Dilworth & Barrese, LLP, "*for Contributions to the Engineering Profession, and for Leadership in the Formation of a New Power & Energy Society Long Island Chapter"*

**IEEE Educational Activities Board (EAB) Pre-University Educator Award: Mr. Robert Spira**, Ward Melville High School, *"for Inspiring and Motivating High School Students Through Imaginative Teaching and Extracurricular Activities to Excel in the Study of Physics and to Choose Careers in Science and Engineering"*

**IEEE 2009 Reliability Engineer of the Year Award: Nathaniel Ozarin**, Omnicon Group Inc., "for his Many Accomplishments in the Reliability Profession with an Emphasis on Innovative and Practical Techniques and Tools for Reliability Engineering and Contributions to Reliability Community Education"

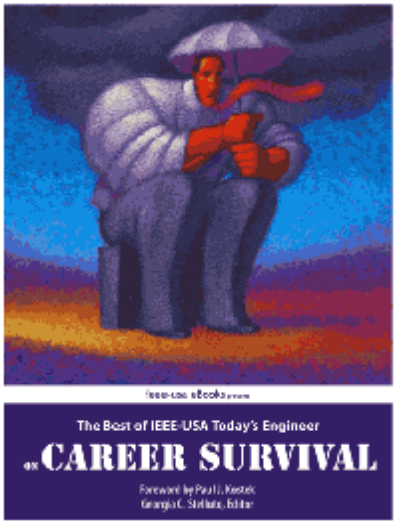
## Key to YOUR Benefits

Discover the Benefits of Membership

**A monthly column by Nikolaos Golas, Membership Development Chairman**

# *FREE Career Survival E-Book to Unemployed IEEE Members*

**IEEE-USA** is offering "The Best of Today's Engineer: On Career Survival" FREE to unemployed IEEE members. The publication provides tips and guidance to those who need help searching for a new job, getting in the front door, maintaining their competitiveness and managing their finances while they search.




The skill we all need is the ability to survive in a changing world. You need to understand the changing business eco-system and what the changes mean to engineers. You'll find these articles increase your situational awareness of the marketplace. This awareness can help you in career planning and skills development. In these articles you'll learn how to assess the market and yourself, how to stay competitive, and what steps to take to survive and remain competitive in the marketplace.

"**The Best of Today's Engineer: On Career Survival**" is a compilation of articles that can help engineers learn how to assess the market and themselves, and what steps to take to survive, find success and remain competitive in today's challenging job market.

"**The Best of Today's Engineer: On Career Survival**" contains such titles as:

- What Are Engineering Employers Looking For?
- Converting Gatekeepers to Greeters
- Picking a Good Boss
- Building Your Network Purposefully -- Before You Need a Job
- Seeking a New Job? Think Like an Employer
- Cold Calling Your Way to a New Job
- Transitioning Jobs, Managing Your Finances
- Five Steps to a New Job
- Jump Start Your Job Search
- Globalization and Your Career: Building Career Resilience
- Successful Career Makeover for Engineers in the 21st Century
- Sine Qua Non: Networking
- Finding Employment in an Economic Downturn
- Six Ways to Maximize Job Search Success

Unemployed IEEE members can request a free copy of "**The Best of Today's Engineer: On Career Survival**" by contacting Helen Hall at h.hall@ieee.org Employed members can purchase a copy for $4.95 at: www.ieeeusa.org/communications/ebooks.

The non-member price is $9.95.

IEEE members can purchase other IEEE-USA E-Books at deeply discounted member prices and download some free e-books at www.ieeeusa.org/communications/ebooks

# Job Postings

**JOBS** from **Telephonics** which has immediate openings for the following:

**Senior Systems Engineer (Radar/IFF)**
Telephonics provides a unique opportunity to work with a world-class engineering staff that includes recognized experts in both the Radar and IFF areas, working on leading edge technology and with state of the art tools. The lead system engineer at Telephonics is responsible for the entire life cycle design and meeting the technical requirements of the project. Bachelor's degree in Electrical Engineering or Physics Engineering plus 10+ years related experience. Required experience includes Radar, DOORS and Matlab database knowledge, system test, and integration. IFF (Identification Friend or Foe) Product Knowledge highly desired. Must have a background that would permit the issuance of a Security clearance, which includes US citizenship.
**Reference#:** RSD-00000232, RSD-00000314

**Chief Scientist (IFF Subject Matter Expert)**
Serves as senior subject matter expert for radar systems division. Actively leads technology roadmap development, technical interactions with customers and VP Programs, insures program execution is in compliance with SOW and requirements. Bachelor's degree in Electrical Engineering or Electromagnetics, with an advanced degree in same discipline. Minimum of 20 years experience with planning and conducting research and development of advanced radar system solutions. Must have current experience and knowledge with IFF Technology (Identification Friend or Foe). Must have a background that would permit the issuance of a Security clearance, which includes US citizenship.
**Reference#:** RSD-00000316

**Principal Digital Design Engineer (FPGA)**
Researches, develops, designs, and tests electronic, electrical and mechanical components, equipment and systems and coordinates activities involved in their fabrication, operation, application, installation and repair. Bachelor's degree in Electrical Engineering, plus a minimum of 15 years related experience. Must have experience with the technical digital design implementation of complex, high speed, circuitry and systems. Must be fluent in Xilinx and VHDL design tools (FPGA), board/box level architecture, design, integration, and testing skills. Knowledge of Radar/IFF is a plus. Must have a background that would permit the issuance of a Security clearance, which includes US citizenship.
**Reference#:** COMM-00000314

Resumes may be submitted to: Telephonics@rpc.webhire.com

Please make sure to include the **Reference #** in the cover letter when responding.

# Historical Milestones Survey Results

**by Nikolaos Golas, 1st Vice Chairman IEEE Long Island Section**

In March 2010 the IEEE Long Island Section conducted a survey of its members in order to select which of the IEEE Milestones in Electrical Engineering and Computing to pursue here on Long Island.

In the December 2009 Pulse newsletter Dr. Michael N. Geselowitz, Staff Director of the IEEE History Center and a LI member covered the IEEE History Committee, the IEEE Global History Network and the IEEE Milestones in Electrical Engineering and Computing program. In the January & February 2010 Pulse columns we explored some potential Milestones in the area covered by the IEEE Long Island Section.

The Milestones Program is a grass-roots program that enables local recognition of events in technological history by the placement of a bronze plaque and an accompanying ceremony. The program encourages Sections to take ownership of their own technological legacy and gives them a unique platform-to promote their existence and their contributions to their local communities.

Milestones in the IEEE Long Island Section:

- 1881 Lewis Latimer's Improved Electric Lamp/pioneering Work as an African American Inventor (now in Queen's County)
- 1901 Tesla's Wardenclyffe Lab (Shoreham)
- 1915 Radiotelephone Broadcast to Grand Fork, ND by Goldsmith (Sayville)
- 1919 First RCA Laboratory (Riverhead)
- 1921 Harding's Transatlantic Broadcast Relayed (Rocky Point)
- 1929 First Blind Flight by Doolittle at Mitchell Field (Garden City)
- 1941 Millar's Two-phase PSK Modulator Carrier System at the Western Union Experimental Lab (Watermill)
- 1941-1996 Sperry Gyroscope Company (Lake Success)
- 1946 Wheeler's IFF Work (Smithtown)
- 1947-1951 Reformulation of Field Theory in Microwave Network Terms at Brooklyn Polytechnic's Microwave Research Institute (Farmingdale)
- 1955 American Bosch Arma Corporation's B-52 Fire-control System for the B-52 and/or the Invention of the PROM (Garden City)
- 1958 Higginbotham's Pioneering Video Game (Brookhaven)
- 1969 Grumman's Lunar Excursion Module (Bethpage)
- 1969 First Networked ATM Installed (Garden City)
- 1973 Lauterbur's Development of MRI/NMR (Stony Brook)

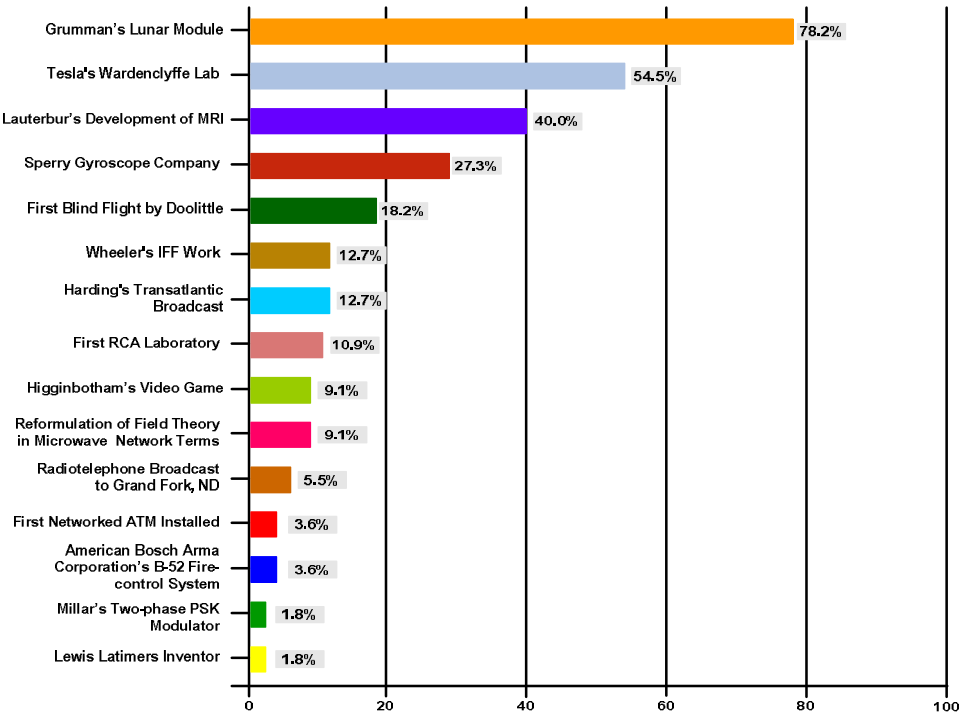
For additional information and details check page 9 of the December 2009, the January & February 2010 Pulse newsletter at:
Pulse December 2009: http://IEEE.LI/pulse/pulse_2009_12.pdf, Pulse January 2010: http://IEEE.LI/pulse/pulse_2010_01.pdf
Pulse February 2010: http://IEEE.LI/pulse/pulse_2010_02.pdf

In addition, we have a dedicated page on the IEEE Global History Network with our list of potential IEEE Milestones for Long Island. This list can be accessed at:

http://www.ieeeghn.org/wiki/index.php/Possible_Milestones_for_IEEE_Long_Island_Section

The results are in and the Grumman's Lunar Excursion Module is the first Historical Milestone that the IEEE Long Island Section will pursue and obtain the bronze plaque and organize the dedication ceremony. A graph of all the results is shown below:

**IEEE Long Island Section Survey Results for IEEE Milestones in Electrical Engineering and Computing**



## LECTURES & SEMINARS

THE LONG ISLAND CHAPTER OF THE IEEE Engineering in Medicine & Biology Society (EMBS) presents:

# PARTICLE SEPARATION IN LOW RE FLOW CONDITIONS: HOW DO RED BLOOD CELLS DECIDE WHICH BRANCH TO TAKE?

**Wednesday, May 5, 2010 at 1:10 PM**

Refreshments will be served at 12:50 PM. This seminar is free & all are invited.

The Long Island Section of the IEEE chapter for Engineering in Medicine & Biology will present a lecture on Bionanotechnology by Dr. Molly Frame on Wednesday, May 5, 2010, at Stony Brook University, Engineering Room 145 (across CEAS Undergraduate Offices) Stony Brook, NY 11794

The lecture is scheduled to begin at 1:10 PM, preceded by lunch of pizza and soft drinks at 12:30 PM

The lecture will focus on Dr. Frame's research in microfluidics, both in vivo and in microchannels, and in particular, in two phase particulate low Re flow.

Two applications will be presented:

I. Oxygen delivery to the capillaries by red blood cells in vivo.

II. Particle separation in a lab on a chip.

While there are no theories to predict particle distribution at branch points, Dr. Frame's empirical data shows some insights into how the shape of a bifurcation within a vessel or microchannel is related to the volume flow vs. the particle flux.

Mary D. (Molly) Frame is an Associate Professor in the Department of Biomedical Engineering at Stony Brook University.

Dr. Frame received her Ph.D. in Physiology from the University of Missouri, Columbia in 1990.

Dr. Frame's post grad research focuses on integrating signal transduction events with physical properties of blood flow at the microvascular level.

Dr. Frame's work has been featured in publications such as the American Journal of Physiology and Journal of Vascular Research.

For more details on Dr. Frame's work and bio, visit her profile on the Stony Brook University site: http://bme.sunysb.edu/people/faculty/mframe.html

Presented by IEEE EMBS of LI
Allison Moreno, EMBS Vice Chair (Allison.Moreno@ieee.org)
John Vodopia, EMBS Chair (jvodopia@ieee.org)

Please visit the Calendar Page of the IEEE Long Island Website at www.ieee.li and click on the registration link, and fill out the form.

The Long Island Chapter of the IEEE APS is presenting a seminar titled:

## MM Wave Communications, It's Time Has Come?
## Subtitle; Will we finally see the potential and promise realized after over 100 years of trying?

Wayne Pleasant, HUBER + SUHNER, Inc.

Thursday, May 13th 2010 at 6:00 pm

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


**Abstract:**
For years, mass deployment of MM wave links are always "round the corner" and finally may be realizable. Technology, regulations, and financial viability have finally converged to reduce most barriers to this reality. Has MM wave communication time finally come or are we still in the missionary mode?
Overview of MM Wave communications, including brief history, current state, and future potential, from a technical and market viewpoint. Particular focus on frequency bands available, today's technology, applications, alternative solutions comparison and deployment success stories.
Specific applications covered will include enterprise, carrier and 3G/4G backhaul topologies.
Advantages and disadvantages of MM wave technologies will be described that include environmental, component, and manufacturability factors. MM wave radio assemblies and associated components will be shown.


**Speaker Biography:**
Over 30 years, 10 patents, and gray hair the author has been dedicated to this "niche" technology. From design, assembly and deployment to missionary marketing and hands on use, he has experienced of the potential of this technology. Starting out a career first in MM wave radio astronomy, then MM wave surveillance, and finally MM wave comm., the author has direct involvement in the process of what it takes to make this technology a viable and unique solution. Currently Manager of MM wave technology for Huber and Suhner, whom have produced a family of high capacity MM wave communications equipment.
From technician to CTO and from vacuum tubes to ASICS the author has used and been abused by MM waves for his total career.

**Location:**
This lecture will be held at Telephonics Corporation located at 815 Broad Hollow Road in Farmingdale. Food & refreshments will be served starting at 6:00 PM, and the presentation will begin at 6:30 pm. The lecture is scheduled to last 60-75 minutes. **Photo ID is required to enter the facility**.

**Directions:**
Southern State Parkway, Exit 32 North (Broad Hollow Road, Route 110), Pass 56th Fighter Group, Telephonics is on the Right, #815 or LIE, Exit 49 South (Broad Hollow Road, Route 110), Pass Airport Plaza, Telephonics is on the Left, #815

**Registration:**
Registration is required, and is available online only. Please visit the Calendar Page of the IEEE Long Island Website www.IEEE.LI, click on the registration link, and fill out the form. All are invited, and the lecture is free.

**Seminar Coordinator:**
Bryan Tropper, Chair of the IEEE APS, LI Section

The Long Island Section Power & Energy Society and Industry Applications Society Joint Chapter
Invites you to a presentation on

# "LIPA Holbrook 138kV Super-conductor Project"

This presentation is an advanced overview of the design and construction of a 138kV Super-conducting cable installation at LIPA's Holbrook facility. The cable consists of 1G superconducting tapes in a cold dielectric configuration with continuous cooling from liquid nitrogen at 70°K. Participants in this lecture shall obtain a general understanding of the following topics and issues:

- What is Superconductivity
- The LIPA System
- Why is LIPA interested
- Current Facility
- General System Design
- Substation Equipment
- Refrigeration system
- Cable & Terminations
- Operating & Other Issues
- On-Going (follow-on) Project

*Featuring* **Tom Welsh**
Program Manager, RDD, National Grid

**Thomas Welsh, P.E.** is a project manager in R&D at LIPA / National Grid. In this role he has initiated and managed a series of superconductor projects for the utility culminating in the current Holbrook transmission project. He has co-authored several papers on the project and delivered numerous presentations on the subject at national conferences. Tom joined the Research and Development Department in 1995, and has worked for the Long Island Lighting Company (LILCO) since 1988. Tom graduated the United States Merchant Marine Academy with a BS in Marine Engineering, and he received his MBA from Adelphi University.

## Thursday May 13, 2010

6:00PM

LIPA - National Grid, 175 Old Country Road, Hicksville, NY 11801
(Park Avenue entrance, use cafeteria parking lot)

**This lecture will provide 0.2 CEU credits or 2 PDH**
**CEU fee is $30 – make checks payable to IEEE Long Island Section**
All are welcome - NO cost to attend - Pizza will be provided
Photo ID is required

If you wish to attend, please register by clicking on the following address
http://www.ieee.li/calendar/index.htm

*The Long Island Chapter of the IEEE Microwave Theory & Techniques Society is presenting a lecture titled:*

# An 8x8 Ka-band Antenna Array with a Highly Integrated Tx Frontend Module

Winfried Simon , IMST GmbH

Wednesday, 2010 June 2 at 6:00 PM

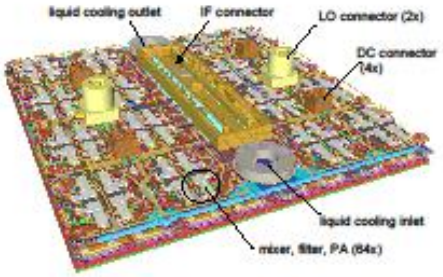
(This lecture is free and all are invited. Pizza and soda will be served at 6:00 PM.)

*Who Should Attend?*

Design, test, and system engineers interested in antenna, multilayer packaging, and circuit design as well as those involved in electromagnetic simulation.

*Abstract:*

The fundamentals and design of a highly integrated KA-band Tx frontend module will be presented. The integration and packaging techniques employed to fabricate the antenna, RF circuitry and cooling system as one functional block in LTCC technology will be discussed in detail. The efficient RF design process of the various functional blocks (antenna, LO feed network, calibration network, etc.) utilizing a full wave EM simulation software program will be explained. It will be shown that this system concept can be applied to large antenna arrays as needed to fulfil link budget requirements for satellite communication (in this instance) as well as for other phased array applications.




*Speaker Bio:*

Winfried Simon studied Electrical Engineering at the Mercator University in Duisburg Germany where he received his Diploma Degree in 1997. Currently he is working as a senior engineer in the department of Antennas & EM Modelling at IMST GmbH in Kamp-Lintfort Germany. His primary fields of activity are electromagnetic simulations and the design of waveguide components, multilayer LTCC circuits and MEMS devices. He is lecturer for the European School of Antennas and author and co-author of more than 40 scientific publications.

*Location:*

This lecture will be held at L-3 Communications Narda Microwave located at 435 Moreland Road in Hauppauge. 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.**

*Directions:*

From LIE East: Take I-495 to exit 53. Stay on EXPRESS DR S. (Service Road) until you reach WICKS RD. Turn LEFT onto WICKS RD. WICKS RD becomes MORELAND RD. Cross over MOTOR PARKWAY and look for Narda on your right. Please use the main entrance parallel to Moreland Road.

From LIE West: Take I-495 to exit 53. Exit at WICKS Road. Turn left at traffic light onto MOTOR PARKWAY. Take MOTOR PARKWAY to MORELAND RD. Make right turn onto MORELAND RD. and look for Narda on your right. Please use the main entrance parallel to Moreland Road.

*Registration:*

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

*Lecture Coordinator:*

Eric Darvin, MTT Vice Chairman for the IEEE Long Island Section (mtt@ieee.li)
Jim Colotti, MTT Chairman for the IEEE Long Island Section (mtt@ieee.li)

# IEEE LISAT 2010

*Long Island Systems, Applications, and Technology Conference*

**Friday, May 7, 2010**
7:30 AM sign-in; 8 AM start

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

## PROGRAM AT A GLANCE

See LISAT website for registration and conference details: www.ieee.li/lisat

| | | | | | | |
|---|---|---|---|---|---|---|
| 7:30-8:00 | REGISTRATION IN ROOSEVELT HALL | | | | | |
| 8:00 - 8:30 | Opening Ceremony and Keynote Presentations *Roosevelt Hall - Little Theater* | | | | | |
| | Systems Track Lupton Hall | Applications Track Lupton Hall | Technology Track Lupton Hall | Product Applications Track *Lupton Hall* | *Electric Utility Distribution Engineering* Roosevelt Hall Rm. 111 See LISAT website for details: www.ieee.li/lisat | Poster Session |
| | *For details on these tracks go to www.ieee.li/list* | | | | | |
| 8:30-9:00 | BREAK : *Roosevelt Hall Multi-Purpose Room Exhibits Area* | | | | | |
| 9:00-10:15 | Session A1 | Session B1 | Session C1 | ALE System Integration: *High Performance Computing in the Financial Industry* | 8:35 - 10:15 Session I Basic power engineering concepts & transmission/distribution topology (0.2 CEUs) | *Roosevelt Hall Multi-Purpose Room (Exhibits Area)* |
| 10:15-10:45 | BREAK : *Roosevelt Hall Multi-Purpose Room Exhibits Area* | | | | 10:15-10:30 BREAK | Authors will be available for one-on-one discussions about their research topics. |
| 10:45-12:00 | Session A2 | Session B2 | Session C2 | National Instruments: *Test Technologies for Military & Aerospace* | 10:30-12:10 Session II Distribution system protective devices and fault clearing (0.2 CEUs) | |
| 12:00-1 :30 | LUNCH : *Roosevelt Hall Multi-Purpose Room Exhibits Area* | | | | 12:10 - 1 :10 LUNCH | |
| 1:30-2:45 | Session A3 | Session B3 | Session C3 | Data Device Corp: *MIL-STD-1553 for Commercial Aircraft* | 1:10 - 2:50 Session III Distributed Generation & Cable Testing (0.2 CEUs) | |
| 2:45-3:15 | BREAK : *Roosevelt Hall Multi-Purpose Room Exhibits Area* | | | | 2:50 - 3:15 BREAK | |
| 3:15-4:30 | Session A4 | Session B4 | Session C4 | National Instruments: *Latest COTS Technologies for Electronic Warfare Applications* | | |

**Register at LISAT web site: www.ieee.li/lisat**

**REGISTRATION RATES**

| | |
|---|---|
| IEEE members: | $150 |
| Unemployed IEEE members: | $ 35 |
| IEEE student & life members | $ 75 |
| Professional engineers: | $150 |
| Non-members: | $200 |
| CEU Credit Fee (0.6 CEUs) | $ 30 |

# IEEE LISAT 2010

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## THREE ALL-DAY PARALLEL TECHNICAL TRACKS

### Systems

***System Processing:*** North Atlantic Right Whale Acoustic Signal Processing ● Mapping Geo-Pathogenic Zones and Required Instrumentation

***Power Systems:*** Turbines Can Suppress Loop Current to Reduce Gulf of Mexico Hurricane Threat ● High Performance Development as Distributed Generation Renewable and Sustainable Energy Replacement Sources

***Wireless Systems:*** Systems Architecture Challenges in the M2M Home Network Building Mobile Apps via Compound Wireless Services ● Network Centric Signal Sensing for Automatic Modulation Classification

***Signal Processing:*** Implementation and Performance Testing of the SQUASH RFID Authentication Protocol ● Integration of Compressive Sensing into First Principle Electro-magnetic Design, Modeling and Simulation ● Effects of the Lunar Environment on Space Vehicle Surfaces

### Applications

***Analysis:*** Statistical Stenganalysis of Images Using Open Source Software ● The Impact of Microsoft's Windows 7 on Computer Forensics Examinations ● Color Pattern Recognition Using Multiple Phase-Shifted Reference Joint Transform Correlation

***Computer Security:*** Error Tolerance and Privacy Enhancement in Matching Fingerprint Templates ● Methodology to Assist Physicians in the Adoption of Electronic Health Record Software ● Automated Extraction of Health Resource URLs from Biomedical Abstracts

***Systems Applications*:** An Architecture for Applying Social Networking to Business ● The "Account Book" Mobile Application for Informal Economies ● Information Overload ● Mining the Web for C\C++ Code Using Regular Expression Based Pattern Matching ● Experiments of Herding Attack on Iterative Hash Functions ● HPC Experiments on a Simple Random Permutation

### Technology

***Materials:*** Synthesis of Bismouth Ferrites Nanocrystal ● Copper, Fiber-optic and Carbon Nanotube Technologies for Next ● Nanocrystal Based Planar Photonic Devices ● Can ZnO Become a ZnO Technology? ● Photoluminescence Modification in Self-Assembled Fluorescent 3D Photonic Crystals ● Color Pattern Recognition Using Multiple Phase-Shifted Reference Joint Transform Correlation

***Analysis:*** FPGA Based Wide Range Optical Sensor for Vibration Detection of Compressor Blades in High Speed Turbine ● Circuit Design for Brain Stimulation and Transmitter Sensing ● Conformable Patch Antenna Design for Remote Health Monitoring ● RFID Design Using EM Analysis ● Remotely Interrogating and Powering a Battlefield Sensor and Spin Torque Nano-Oscillator for the Army ● Comparing the Efficiency of Silicon Based Solar Cells with Dye Sensitized Solar Cell

### INDEPENDENT SIX-HOUR CEU/PDH TRACK

**"ELECTRIC UTILITY BASIC DISTRIBUTION ENGINEERING"**

**0.2 CEU (2 PDH) credits available for each of 3 topics in this track. Pick and choose the topics of your interest. See the LISAT website for more details: www.ieee.li/lisat**

### EXHIBITS HALL

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

### POSTER SESSION

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

### PRODUCT APPLICATIONS TRACK

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

**REGISTRATION :** www.ieee.li/lisat

**LISAT web site:** www.ieee.li/lisat

# Southern Area Entrepreneur's Day

## *May 8 2010*

## Monmouth University

## *West Long Branch, NJ*

- Registration Instructions | Program | Presentations | Map/Directions to Wilson Hall | Committee -
http://njseminar.org/

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his one day conference is targeted to engineers who are learning to be entrepreneurs by entering into ne
eas of opportunities. It will address:

- How to leverage available resources at the federal and state level
- What successful CEOs and CTOs did to enter into these new areas
- What the government is trying to do to leverage entrepreneurs

ick on **Program** for the full list of speakers and times.


# Sales Training and Marketing

Wednesday, May 05, 2010
12:00pm -1:30pm
LIHTI Conference Room

## Speaker: Adrian Miller
## Adrian Miller Sales Training

**Best Practices for Your Business:**

**Understanding and Leveraging Advantages & Opportunities Without Overlooking Challenges and Problems**

- Top Tips for Sales Success
- Understanding the Critical Importance of: "What Makes YOU Different"
- Effective Networking: the Good, the Bad and the Ugly
- How Customer Service Can Set You Apart

RSVP by May 3rd to francescalabro@LIHTI.org or 631-444-9770
For directions see: www.lihti.org/map-directions
Beverages and Bagels Provided

# WHAT CONGRESS IS DOING TO ENGINEERING

# &

# WHAT YOU CAN DO ABOUT IT

Thursday May 27, 2010 6-10PM

Briarcliff Collage,1055 Stewart Avenue Bethpage, NY 11714.

**Synopsis**

It has been a busy year in Washington for IEEE. Budgets are tight. NASA will be refocused (or maybe not) and the student loan program already has been. Energy policy is up in the air. And nobody knows what to do about immigration. Oh, and Congress wants to create more high-paying jobs, but doesn't know how.

Want some help making sense of it all? Join IEEE-USA's Senior Legislative Representative for Grassroots Activities Russ Harrison for a discussion on what's going on in Washington, how it will impact engineers and what we all can do about it. We'll discuss the economy, immigration, offshoring, alternative energy and anything else you are worried about. Congress is unusually focused on issues that IEEE members care about this year. Join the IEEE Long Island Section for an evening to learn what that means to you.

**Bio**

Russell is the Senior Legislative Representative for Grassroots Activities for IEEE-USA. He is responsible for helping IEEE members in the U.S. interact with, and ultimately influence, elected officials.

Since starting at IEEE-USA in 2005, Russell has become one of the most sought-after speakers on the IEEE staff, having addressed over 130 local IEEE groups in the United States. His talks focus on current public policy issues, how they will impact the engineering profession and what individual engineers can do about them.

Prior to IEEE-USA, Russell directed grassroots programs at the Institute of Scrap Recycling Industries and the American Iron and Steel Institute. In these positions he represented the recycling and steel industries on Capitol Hill and in state capitols on a variety of issues as a professional lobbyist.

Russell has a BA in Political Science, with minors in History and Communications, from Allegheny College, a Masters in Public Policy from the University of Maryland and earned his CAE certification in 2009.

**Coordinators:**

Irwin Weitman, **PACE Chair, pace@ieee.li**

Pete Eckstein, p.a.eckstein@ieee.org

THE PULSE OF LONG ISLAND IEEE

# Attention Long Island IEEE Members!

**The PULSE needs your support!**

**Please send any articles, notes of interest, letters to the Editor, Industry news, job postings for publication in the June PULSE**

**Regards,**
**John F. Vodopia, Pulse Editor**

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