

The *Pulse* of Long Island



IEEE LI Section's 50th Year!

September 1, 2003 - Vol. 53 No. 7

The monthly newsletter of the Long Island Section of the Institute of Electrical and Electronics Engineers, Inc.

Chairman's Message

By Dave Mesecher
d.mesecher@ieee.org



A Prime Candidate

Even though you haven't heard from us in a couple of months, we continued to move forward with new initiatives for your Section, and exciting developments continued arise, not the least of which is the nomination of our own Charles Rubenstein for the position of Director-elect of Region 1, which includes New York, Connecticut, Massachusetts, Rhode Island, Vermont, New Hampshire, Maine, and parts of New Jersey.

Dr. Rubenstein is currently the Chairman of Area B, which includes the Sections of Long Island, New York, Connecticut, New Jersey Coast, New Jersey North, and Princeton/Central Jersey. In spite of the requirements of this demanding position, Charles continues to regularly attend the Long Island Section's monthly Executive Committee meetings (to which any IEEE member is invited, by the way - more on that later).

His attendance at our meetings has been a tremendous help - to me, personally, and to the Section in general. His knowledge of the IEEE - its policies, its procedures, its structure, its politics, its rules, its regulations, its history - is greater than anyone else I have met, and having this brain trust at our disposal each month has proved invaluable as we carry out our goals for the Section. His experience, creativity, and diplomacy allow us to quickly resolve disconnects, work through impasses, and make hard decisions, enabling us to take on and accomplish much more than we otherwise could have. Initiatives that have succeeded in no small part due to Charles' guidance include:

- The creation of the new annual LI Section *Athanasios Papoulis Award for Excellence in Engineering and Technology Education*. (See page 14 of this newsletter.)
- Volunteer recognition, where the efforts Executive Committee members and Affinity Leaders are now acknowledged during our annual awards ceremony with a plaque, a pin, or a certificate, depending on the position or positions held.
- The creation and revival of Society Chapters, including the Aerospace and Electronic Systems Society and the Microwave Theory and Techniques Society.
- Student involvement, including the planning for a meeting with members of all LI student branches.

(Continued on Page 15)

The PULSE is now available on-line!

To get the on-line PULSE and get up-to-date information about the Section, visit our web site at: **www.IEEE.LI**

You can also register for IEEE LI Section events online at this web site!

Candidates for the LI Section Officers

The Nominating Committee of the Long Island Section announces the slate of Executive Officer Candidates for the 2004 Administrative year for the following positions:

Chair	Christian DiFranco
1st Vice Chair	Daniel Rogers
2nd Vice Chair	David Wolff
Secretary	TBD
Treasurer	Amy Wang

Additional nominations may be made by petition from now until September 15, 2003. Petition nominations must be in writing, including the membership numbers and include the signature of at least 10 members of the Long Island Section. The petitions must be delivered no later than September 15, 2003 to be included on the ballot which will appear in the October issue of the Pulse.

In order to validate the nomination, it must include the member's name and his/her membership number.

Send nominations to:
Babak Beheshti
101 Caffrey Avenue
Bethpage, NY 11714

IEEE TECHNICAL MEETING

DATE: Monday November 19, 2003
TIME: 7:00PM
PLACE: Telephonics Corp., 815 Broadhollow Road, Farmingdale, NY
TOPIC: Solar power, its uses and benefits for clean energy
SPEAKER: Dr. Gaye Canough, Consultant to ETM Solar Works
ADMISSION FEE: None. Please register in advance with liaison.
LIAISON: Robert Bruce, 718/224-9498, r.n.bruce@ieee.org

POWER ENGINEERING SOCIETY MEETING NOTICE

DATE: Thursday, Sept. 25, 2003
ADMISSION FEE: None Please reserve in advance
TIME: Refreshments – 5:15PM; Meeting – 5:45PM
PLACE: Con Ed, 14th Street & Irving Place, NYC, 19th Floor Executive Dining Room
TOPIC: Power Monitoring Design Considerations
SPEAKER: Glenn Kwederus, Power Management Department, Square D Corp

Check date with these individuals:
Sukumar Alampur @ 212/563-7400 or James Nucito @ 732/380-1100

Long Island Section Officers

Chair Dave Mesecher
1st Vice Chair . . . Christian DiFranco
2nd Vice Chair . . . Daniel Rogers
Secretary Amy Wang
Treasurer David Wolff

Address All Correspondence to:

PULSE EDITOR
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Send Address Changes to:

The PULSE of Long Island
phone: (800) 678-IEEE
PO BOX 1331
PISCATAWAY NJ 08855-1331

PULSE Deadlines

For Oct. 2003: 9-5-03
For Nov. 2003: 10-5-03

Consultants

Network of LI

The Consultants Network of LI maintains a referral service of Engineering, Computer, Managerial and Technical Professionals. Call or write for more information. There is no charge to the client for this service.
Voice Mail 516-379-1678
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www.consult-li.com

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IEEE Long Island Section Calendar

(No membership requirements, no registration, no fees at meeting unless otherwise noted.)

Please visit our website at [www.IEEE.LI](http://www.ieee.li) and click on the calendar for online registration (as available) and for listing updates

September 3, 2003 - LI Consultant's Network at 7:00 PM at Briarcliffe College. For See Announcement on page 4.

September 16, 2003 - "Direct Digital Synthesis Primer", Mr. Ted Harris – Analog Devices, Telephonics Corporation located at 815 Broad Hollow Road in Farmingdale, Registration is required, and is available online only. Please visit the calendar page of the IEEE Long Island Website <http://www.ieee.li/calendar.htm>, click on the registration link, and fill out the form. (See full page announcement in this issue)

September 25, 2003 - Power Monitoring Design Considerations, Glenn Kwederus, Power Management Department, Square D Corp., 5:15PM; Meeting – 5:45PM Please reserve in advance, Con Ed, 14th Street & Irving Place, NYC, 19th Floor Executive Dining Room, Sukumar Alampur @ 212/563-7400 or James Nucito @ 732/380-1100

September 25, 2003 - "Indoor Wireless Real -Time Location Systems (RTLS) and Radio Frequency Identification (RFID)", A lecture by Bruce Willins, Vice President of Research and Development, Symbol Technologies. To register and to be notified of location, date, and time, contact Dave Mesecher at d.mesecher@ieee.org or at 516 346 7041. . (See full page announcement in this issue)

September 29, 2003 - Long Island Section Executive Committee (ExCom) meeting at 6:00 PM, Telephonics Corp. on Route 110 in Farmingdale- This meeting is OPEN and FREE TO ALL IEEE members- Please contact Dave Mesecher for reserving a space in the meeting (d.mesecher@ieee.org)

October 1, 2003 - LI Consultant's Network at 7:00 PM at Briarcliffe College. For See Announcement on page 4.

October 14, 2003 - "Overview - Lightning Protection of Aircraft and Avionics", Mr. Rob Majkner – Sr. Engineer, Electromagnetic Technologies, Sikorsky Aircraft, Stratford CT. RSVP is required by no later than 3 October. Please do this via the IEEE Long Island EMC Chapter Web Site <http://www.ieee.li/emc.htm> For those without internet access, a message may be left at (631)265-2282. . (See full page announcement in this issue)

October 16, 2003 – "From Goddard to Apollo", Mr. Burton Dicht, Director of the ASME Southern Field Office in Dallas, TX. A dinner-lecture co-sponsored by the IEEE AES, ASME and AIAA LI societies at the 56th Fighter Group Restaurant, Farmingdale, NY. Tentative times: registration at 6 PM, dinner at 6:30 PM and lecture at 8 PM. The lecture is open to the public, but seating is limited. Advanced payment registration is required. To register, see the announcement on page 12 for details. For information, please contact Rich Pierro at richard_s_pierro@ieee.org, rspierro@optonline.net or call 516-628-3156. . (See full page announcement in this issue)

October 27, 2003 - Long Island Section Executive Committee (ExCom) meeting at 6:00 PM, Telephonics Corp. on Route 110 in Farmingdale- This meeting is OPEN and FREE TO ALL IEEE members- Please contact Dave Mesecher for reserving a space in the meeting (d.mesecher@ieee.org)

November 5, 2003 - LI Consultant's Network at 7:00 PM at Briarcliffe College. For See Announcement on page 4.

November 12, 2003 - "Present & Future Filter Design Philosophy: Paradigm Shift in Progress", Dr. Richard V. Snyder – RS Microwave, Telephonics Corporation located at 815 Broad Hollow Road in Farmingdale, Registration is required, and is available online only. Please visit the calendar page of the IEEE Long Island Website <http://www.ieee.li/calendar.htm>, click on the registration link, and fill out the form. . (See full page announcement in this issue)

November 3, 10, and 17, 2003 - Section 1 -"Leadership Skills for Engineers in the Workplace", Charles P. Rubenstein, Ph.D. , from 6:30 to 9 PM, Locations are TBD, but will likely be in the western Suffolk / Eastern Nassau area. For further information contact Irwin Weitman at 631 266-2651 or at i.weitman@ieee.org . . (See full page announcement in this issue)

November 19, 2003 - "Solar power, its uses and benefits for clean energy", By Dr. Gaye Canough, Consultant to ETM Solar Works, at Telephonics Corp., 815 Broadhollow Road, Farmingdale, Please register in advance with Robert Bruce, 718/224-9498, r.n.bruce@ieee.org

November 21, 2003 - Section 2 -"Leadership Skills for Engineers in the Workplace", Charles P. Rubenstein, Ph.D. , All day, Locations are TBD, but will likely be in the western Suffolk / Eastern Nassau area. For further information contact Irwin Weitman at 631 266-2651 or at i.weitman@ieee.org .

November 24, 2003 - Long Island Section Executive Committee (ExCom) meeting at 6:00 PM, Telephonics Corp. on Route 110 in Farmingdale- This meeting is OPEN and FREE TO ALL IEEE members- Please contact Dave Mesecher for reserving a space in the meeting (d.mesecher@ieee.org)

MEETING NOTICE

On the **First Wednesday of each month** at 7 PM, the IEEE Consultants Network of Long Island will Meet.

The program will be held at Briarcliffe College,
1055 Stewart Avenue, Bethpage, NY.

Admission is free (no charge).

No pre-registration is required.

For last minute announcements and updates visit:

www.consult-li.com

Advertisement Business Opportunity

Considering starting your own business, but don't have access to affordable facilities/services? Our new Tech Center in Ronkonkoma LI can help by providing a professional facility to set up your business, and services ranging from engineering to full mfg.

Call for details. Mr. A 631 471 6157

Professional Activities Report for June, 2003

By: Irwin Weitman, P.E. , PACE Chairman

I hope everyone had a good summer in spite of the strange weather patterns we've been experiencing. Among the latest new reports on subjects that concern the livelihood of engineers is the report that some of the very large companies are not satisfied with displacing engineers and software people with H1-b and L-1 temporary foreign persons. They now want to ship the entire jobs out of the country, including manufacturing. With this step, we, the USA, can complete the Globalization process by having our own citizens provide the soft services, lawn care, hamburger turning and other low skill jobs to our undereducated citizens. Technical and other "expensive services" can go to the rest of the Globe. We will have the "time" with our superior intellect, to figure out how to earn the money needed to buy those hamburgers and low skill services. Our corporate management and accounting experts will earn more than top dollar, while they figure out what next step is needed to maintain their high standard of living.

IEEE Colleagues,

Here is a copy of a column by Paul Kostek on the increasing difficulty U.S. engineers are having competing financially with non-U.S. engineers. Please use it in your publications as you deem appropriate. Mr. Kostek is 2003 Chair of the American Association of Engineering Societies and a past president of IEEE-USA.

Thank you for your consideration.

Chris McManes
IEEE-USA
Public Relations

Competing With The \$800 a Month (or less) Engineer By Paul Kostek

We hear plenty about the positive impact globalization is having on the marketplace. Unfortunately for many engineers and other high-tech professionals, the impact has been devastating.

Engineering jobs in all sectors of the economy are being contracted out and moved outside the United States at an alarming rate. By 2015, 3.3 million white-collar jobs - including more than 472,000 in information technology and mathematics - are expected to move to low-cost countries, according to Forrester Research Inc. analyst John C. McCarthy. The predicted loss in wages is a staggering \$136 billion. The loss to the U.S. economy is far greater.

To take advantage of much lower salaries in other parts of the world, major corporations are already building overseas design centers. For the CEO under pressure to improve the corporate bottom line, the economics are hard to beat. You can hire a skilled non-U.S. engineer for about \$800 a month, about what many U.S. engineering grads earn per week. The \$5,000-a-year software programmer is another global reality.

Business Week magazine recently reported that for \$650 a month you can employ an aerospace engineer in Russia with a master's degree in math or aeronautics. His U.S. counterpart makes about \$6,000 a month.

So how do U.S. engineers compete in this new global marketplace? The answer has profound implications for the future of technical innovation in the United States, which sustains our nation's economic competitiveness, national security and overall standard of living.

Obviously U.S. engineers won't be able to compete on price by accepting salaries that are below U.S. poverty levels, leaving superior skills and proximity as their best hopes for maintaining a competitive edge. But even if the U.S. engineer enjoys a skills edge, how can an employer not take advantage of the increased productivity inherent in a salary differential that
(Continued on page 14)

Notes from the Editor, By: Babak Beheshti

Candidate for IEEE-USA 2004 President-Elect

The IEEE election period is almost upon us. This September, when I receive the ballot, I will vote for Dr. Gerard A. Alphonse for the position of **IEEE-USA 2004 President-Elect**. And **Dr. Charles Rubenstein for the IEEE Region 1 Director-Elect 2004-2005**. **Notice that these colleagues are not running for the same office!!** I have known both of these candidates for a long time and their record of visionary service to IEEE is long and exemplary.



Dr. Alphonse is the current Region 1 (North-eastern US) Director, a long time advocate of the engineering community in this region and a dedicated volunteer. I am attaching below a brief bio of Dr. Alphonse and his statement on current issues.

Gerard A. Alphonse holds the BSEE, MSEE PhD (Electro physics) from New York Polytechnic University. He joined the RCA Laboratories (now Sarnoff Corporation) in 1959, where he has made major contributions in super conductive devices, holographic data storage, acousto-optics, ultrasonic transducers, optical recording, tiled displays, and Photonics. As program manager in Photonics, he invented in 1986 and led the development of the world's highest performance super luminescent diode, a key component in fiber optic gyroscopes, low coherence imaging, and external cavity lasers. His commitment to engineering education covers 16 years as adjunct faculty, Electronic Physics Department at LaSalle University's Evening Division, including four years as Department Head. His commitment to professionalism covers over 30 years of volunteer leadership in IEEE. He is author and co-author of over 120 technical papers and holds over 50 US patents. Dr. Alphonse has received four David Sarnoff Outstanding Achievement Awards, an IEEE Region 1 Award, and the IEEE Millennium Award. He is a Fellow of IEEE, a member of the honorary societies Eta Kappa Nu, Tau Beta Pi, Sigma Xi, and the Science & Arts Committee of the Franklin Institute. He is currently IEEE Region I Director and serves on the IEEE, RAB, and IEEE-USA Boards.

"I am an individual who believes that a complete professional is one who not only endeavours to contribute to his or her discipline, but also one who wants to be a mentor for the younger ones, and one who is ready to give back to the profession through volunteering leadership. I have done those things and I am ready to do more.

Why do I want to be president of IEEE-USA? IEEE-USA is the arm IEEE that goes beyond Technical Activities. It is aimed, among other things, at career vitality and services, and the promotion of government legislations and policies in support of the profession and of society's well being.

IEEE-USA faces some tough battles ahead, and I believe that, as a broad-based professional with experience in engineering R&D leadership, academia, and a proven record of IEEE governance, I can lead us through those challenges."

Candidate for Region 1 Director-Elect 2004-2005



I have worked with Charlie for many years in IEEE Leadership positions and feel that although not a member of LI Section, his efforts to provide seminars and tutorials on HTML, Multimedia Technologies, Wireless Technologies, and the upcoming Leadership Skills Workshop, to the Section as well as advice to, and participation in, the ExCom for the past years have been invaluable to both the leadership and membership of the LI Section.

Charles Rubenstein is a tenured professor of engineering and information science at the Pratt Institute graduate School of Information and Library Science. He has an earned doctorate in Bioengineering from the Polytechnic Institute of New York and a masters degree in Library and Information Science from Pratt Institute.

Dr. Rubenstein is a senior member of the IEEE. His major service to IEEE has been as a member of the IEEE-USA Board of Directors and Operating Committee (2003), a member of the IEEE-USA PACE Committees since 1999 (currently serving as Vice-Chair), a member of the Technical Activities Board (2003), a member of the Engineering Management Society Board of Governors since 1988 (currently serving his fourth term as vice president - member relations) and a member of the Region 1 Board since 1992 (currently serving as Area B Chair (2002-2003), Electronic Communications Coordinator (1992-2003) and member of the METSAC Council (2002-2003)).

He has also served as the Region 1 Chapters Coordinator (1992-1999), and Student Activities Coordinator (1982-1984). He served two terms on the Electro Board of Directors (METSAC Council representative 1983-1987 and 1999-2001) and in several New York Section ExCom capacities including member-at-large (1994-present).

His leadership service to the IEEE includes: Member-at-large of the IEEE Publication Boards (2000-2002), IEEE Educational Activities Board Life Long Learning Council member and EAB Society Product Committee Chair.



The Long Island Chapter of IEEE Electromagnetic Compatibility Society is presenting a lecture titled:

Overview - Lightning Protection of Aircraft and Avionics

Tuesday, October 14, 2003

WHO SHOULD ATTEND? Individuals concerned with lightning protection design and verification of aircraft and aircraft avionic and other electrical systems, individuals responsible for certification or qualification of aircraft and/or aircraft systems, individuals interested in learning more about the lightning environment, the effects of lightning on aircraft, and protection against those effects.

SPEAKER: Mr. Rob Majkner – Sr. Engineer, Electromagnetic Technologies, Sikorsky Aircraft, Stratford CT

Abstract:

All of us have witnessed, and many have been awed by, the pure power of Mother Nature's fury during thunderstorms. While we may marvel at lightning from a distance, too close of a call can be frightening and downright dangerous. The aircraft industry also must respect lightning strikes. With electrical currents of upwards of 200,000 amperes generated during severe cloud-to-ground strikes, aircraft, which intercept or trigger the lightning channel, must be able to fly through it with minimal structural damage and minimal loss/upset of on-board avionics, flight controls, and electrical systems. On previous generation aircraft, highly conductive metal fuselages inherently provided protection for the aircraft and its occupants. Electromechanical and pneumatic flight instruments proved relatively robust against the indirect (induced) effects of the lightning current flowing through the airframe. With the advent of composite structural usage and integrated digital avionics, special means of protection must be incorporated in the aircraft design to allow the aircraft to survive in-flight lightning strikes.

Discussion will center on the lightning environment, the effects of lightning on structure and coupling mechanisms for equipment, commercial and military design/test requirements, protection design scenarios and techniques, and certification/qualification plans, test methods, and procedures.

Seminar Coordinators:

Bruce Willard, IEEE Long Island Section Electromagnetic Compatibility Chapter Chair, and the RFI Corporation.

Speaker Bio:

Rob is currently the atmospheric electrical hazards specialist for Sikorsky Aircraft Corporation, responsible for lightning and static interaction with all vehicle models including the recently certified commercial S-92, the all-composite RAH-66 Comanche, as well as the H-60, S-76, S-61, and H-53 series aircraft. Rob has worked at Sikorsky since 1987 in the Avionics Test and Electromagnetic Technologies sections and is also the company FAA DER for atmospheric electrical hazards. Prior to his work at Sikorsky, Rob spent a total of eight years at Fairchild Republic, where he was responsible for atmospheric electrical hazards design and verification on the SF-340 and T-46 programs. He also worked as a systems test engineer at Hazeltine for one year. Rob received a Bachelor of Technology degree from New York Institute of Technology.

Location, Time, and Registration:

This lecture will be held at RFI Corp located on Pine Aire Drive, in Bay Shore, NY. The facility is located just East of the Sagtikos Parkway on Pine Aire Drive. The presentation will begin at 7:00 PM, but coffee and a snack will be served beginning at 6:30 PM. Seating is limited. If you wish to attend, an RSVP is required by no later than 3 October. Please do this via the IEEE Long Island EMC Chapter Web Site <http://www.ieee.li/emc.htm> For those without internet access, a message may be left at (631)265-2282.

The Long Island Chapter of the IEEE Communications Society
and
The Long Island IEEE Professional Activities Committee for Engineers (PACE)
present a workshop on:

Leadership Skills for Engineers in the Workplace

conducted by
Charles P. Rubenstein, Ph.D.

Sponsored in part by IEEE Regional and Division/Society PACE Project Funds

Overview

The IEEE Long Island Section PACE committee is presenting a workshop on leadership skills for engineers. There will be two sections of the workshop. One will be given in three evening sessions (2½ hours per session); the other will be a single all-day session. Content is the same for both.

Who Should Attend

In an effort to support the technology-development industry on Long Island, this course is intended to help engineers and engineering managers achieve advancements for themselves, and successes for the companies they work for.

Key Benefits

This workshop will help participants recognize and develop interpersonal, group, team and individual leadership skills. The format is through interactive participation, also using exercises and case studies. The skills developed are appropriate for application in management or leadership positions in various types of organizations, including business, industry and volunteer activities.

Content

The course will address such issues as: What are the attributes of a leader? What does a leader do? What motivates people? What motivates volunteers? What is the relationship between management and leadership? Holistic communications and active listening. Keys to leadership problem identification and solution techniques. Identification of personal interactive skills (Jungian types). Identifying conflict styles and managing conflict. Brainstorming for building teams and consensus. Coaching and persuasion. Basic presentation skills.

Seminar Coordinator

Irwin Weitman is currently the Chairman of the LI Chapter of IEEE PACE, as well as the Chairman of the IEEE LI Consultants Network.

Instructor

Charles Rubenstein is a tenured professor of engineering and information science at the Pratt Institute graduate School of Information and Library Science. He has an earned doctorate in Bioengineering from the Polytechnic Institute of New York and a master's degree in Library and Information Science from Pratt Institute.

Dr. Rubenstein is a senior member of the IEEE. He has been a member of the IEEE-USA PACE Committees since 1999, currently serving as Vice-Chair, and a member of the Engineering Management Society Board of Governors since 1988, currently serving his fourth term as Vice President, Member Relations. Dr. Rubenstein has been an Engineering Management Society Distinguished Visitor since 1997.

Location and Times

Section 1: Nov 3, 10, and 17 from 6:30 to 9 PM.

(A light dinner will be served each evening.)

Section 2: November 21 from 8 AM to 4 PM.

(Lunch will be served.)

Locations are TBD, but will likely be in the western Suffolk / Eastern Nassau area.

For further information contact Irwin Weitman at 631 266-2651 or at i.weitman@ieee.org.

Registration Fees

	Non- Member	Member	Student or Life member	Out-of- work member
By Oct 24:	\$350	\$250	\$200	\$100
After Oct 24:	\$400	\$300	\$250	\$125

Registration Form

Leadership Skills Workshop, Nov, 2003

Make checks payable to "IEEE Long Island Section". Submit check and registration form to Irwin Weitman, 196 Cedrus Avenue, East Northport, NY 11731

Mr./Mrs./Ms. _____

Specify **Section 1** (three evening sessions Nov 3, 10, 17)

OR

Section 2 (one all-day session Nov 21): _____

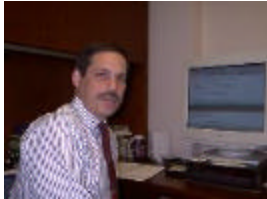
Home Address: _____

City and Zip: _____

Phone: _____ E-mail: _____

Member #: _____ Grade: _____

Amount enclosed: \$ _____



The Long Island Section of the IEEE Communications Society
presents:

***Indoor Wireless Real-Time Location Systems
(RTLS)
and
Radio Frequency Identification (RFID)***

A lecture by

Bruce Willins

Vice President of Research and Development, Symbol Technologies

7 PM, September 25, 2003, at SUNY Farmingdale, Rt. 110 (Details will be provided to registrants soon.)

The world is on the brink of an inflection point that will bring to bare an unprecedented ability to ubiquitously and pervasively identify, locate, and track both people and inanimate objects. Such overt and covert systems will leverage both electronic (active, semi-passive, and passive) tag appliques and/or standards based wireless transmissions (e.g. IEEE 802.11, Bluetooth...).

The lecture focuses on in-building identification and tracking. In the course of the lecture Mr. Willins will discuss the technical status and inter-relationships of RFID and RTLS. He will cover basic RTLS techniques for triangulation and trilateration, using signal strength, time (TOA, TDOA), and phase (AOA). You will learn how current breakthroughs in passive RFID technologies are driving the world closer to the coveted "penny tag", and generating substantial seminal work on how to manufacture, deploy, and administer trillions of tags. During the conclusions, you will learn how such technologies when used in concert, will ultimately transition automatic identification and data collection (AIDC) from a manual discrete process to one that is automated and continuous.

Bruce Willins graduated from Polytechnic University in 1979 with a BSEE and from Adelphi University with an MBA in 1981. In 1979 he joined Hazeltine Corporation where he developed Packet Radio systems. In 1984 he founded Netways Inc, a company performing network research for DARPA and later becoming a manufacturer of LAN/WAN internetworking products. After being acquired by Raycom Systems, Mr. Willins spent the next 4 years directing advanced development in fiber-optic networking and switching. Upon acquisition by Retix Corp in 1994, he continued to direct advanced development for enterprise network switches and routers. In 1996 Mr. Willins joined SMC Networks in Hauppauge where he became VP of Engineering, and General Manager for Strategic Business. Currently at Symbol Technologies, he is responsible for a number of emerging technologies, including; wireless LANs, network security, and voice/data convergence on mobile platforms.

The lecture is free and open to the public, but **registration is required.**

To register and to be notified of location, date, and time, contact Dave Mesecher at d.mesecher@ieee.org or at 516 346 7041, or visit www.ieee.li/communications.htm .

EDA
Ad Here

**The IEEE Long Island Section of the IEEE
Endorses and Supports
the
Long Island Museum of Science and Technology**

The Executive Committee of the Long Island Section of the IEEE affirms the importance to the engineering profession of inspiring young people to pursue, and achieve success in, the science-related disciplines, and of making available high-quality education. Accordingly, the Committee hereby resolves to give all possible support to the development of the Long Island Museum of Science and Technology (LIMSAT), and urges Section membership to do the same.

The Executive Committee has voted to provide, in keeping with the Section's commitment to LIMSAT, a \$500 donation to be used in support of student competition in science and technology.

June, 2003
The Executive Committee of the Long Island Section of the IEEE

Please visit the LIMSAT Web Site at <http://www.limsat.org/>



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

Present & Future Filter Design Philosophy: Paradigm Shift in Progress

Dr. Richard V. Snyder – RS Microwave

Wednesday, 2003 November 12 at 6:30 PM

(This seminar is free and all are invited. Appetizers/snacks/beverages will be served at 6:00 PM.)

Who Should Attend?

Engineers involved in the use and/or design of RF/microwave filters, especially in demanding applications where size and/or performance are critical.

Abstract:

The design of passive filter networks has traditionally been a process in which approximations are made to a desired transfer function using reactive and resistive elements exhibiting the same frequency-dependant functional form. Over the years, a variety of synthesis techniques have been developed that allow for extracting sets of such elements from the transmission and reflection functions associated with approximating the desired transfer function when terminated with a specified source and load impedance. Network topologies have evolved and it is possible to synthesize rather optimum non-minimum phase ("quasi-elliptic") filters, accurately representing the irises or lumped elements used in cross coupling as small sub-networks embedded into the whole. Fortunately, the synthesis limitations (lumped elements, distributed periodic, non-periodic, etc.) can be overcome with E-M analysis, parameter extraction and optimization. As filter networks become physically smaller, the interactions between the elements, and the effect of these interactions upon the equivalent circuits, is increasingly important. The grand challenge facing designers today is multivariable synthesis followed by implementation of networks that incorporate accurately characterized elements and interfaces. In this lecture, we will review the status of multivariable synthesis, parameter extraction of element equivalent circuits and the use of E-M simulation in conjunction with optimization to implement filters.

Seminar Coordinator:

James Colotti, Chair of the IEEE Microwave Theory and Techniques Society, LI Section

Speaker Bio:

Dick Snyder is the President and founder of RS Microwave Company Inc., a well-known manufacturer of RF and Microwave filters. He is the author of over 65 papers on the subject of filters and couplers and a book chapter (CRC Handbook), as well as holder of 15 patents. He received his BS, MS and PhD degrees from Loyola-Marymount, USC and PINY. His current research areas include electromagnetic simulation as applied to filters and networks, dielectric resonators, suspended resonators and active filter networks.

Location:

This seminar will be held at Telephonics Corporation located at 815 Broad Hollow Road in Farmingdale. Appetizers, snacks & beverages 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 before the seminar begins.) The seminar is expected to last 1 to 1.5 hours. The seminar is free and all are invited.

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 <http://www.ieee.li/calendar.htm>, click on the registration link, and fill out the form.

The Long Island Section of the IEEE Aerospace & Electronic Systems Society
in conjunction with
The Long Island Sections of the ASME and the AIAA
present:

“From Goddard to Apollo”

**A Dinner Lecture by Mr. Burton Dicht,
Director of the ASME Southern Field Office, Dallas, TX**

October 16, 2003, at the 56th Fighter Group Restaurant
Route 110, Farmingdale, 631.694.8280

Registration and hors d'oeuvres at 6 PM. Dinner at 6:30 PM. Lecture at 8 PM.

With the recent loss of the Shuttle Columbia and its crew, Americans have turned their attention toward NASA and the human space flight program. For more than forty years, American and International astronauts have rocketed their way into space and beyond. During the more than 140 U.S. space flights, NASA has experienced great triumph, failure and devastating tragedy.

This presentation will focus on perhaps NASA's greatest triumph, the landing of Americans on the moon. It has been more than thirty years since Neil Armstrong and Buzz Aldrin landed their Lunar Module "Eagle" on the lunar surface culminating one of the greatest explorations in human history. Project Apollo was the largest peacetime engineering project ever undertaken by the United States. At its peak it involved more than 20,000 companies and 400,000 people.

It was a remarkable technological achievement that was born out of the Cold War. Mr. Dicht's presentation will trace the history of America's race to the moon, from its simple origins of a 15- minute sub-orbital flight to the triumph of six successful moon landings. Starting with Robert Goddard and his early experiments with rocketry, thru War World II, and finally to Sputnik and Project Mercury, Mr. Dicht will discuss how America harnessed its technological resources to meet President Kennedy's challenge. Mr. Dicht will also touch on the recent tragedy and what the future might hold for NASA and America's space program.

Currently, Mr. Dicht is the Director of the ASME Southern Field Office in Dallas and is responsible for serving the volunteer leadership in Regions X and XI. His engineering experience is in the aerospace area, having served as a lead engineer for Northrop Grumman and Rockwell Space Transportation Systems Division. He has worked on such projects as the F-5E Tiger II, the F20A Tigershark, the F-18E/F Super Hornet, the YF-23A Advanced Tactical Fighter and the Space Shuttle. Mr. Dicht has had a lifelong interest in the space program and has a Master's Degree in history where he specialized in presidential history, including Kennedy's decision to go to the moon.

Advanced payment registration is required. The lecture is open to the public, but seating is limited. To register, complete the form below and submit it with your check by October 2nd. For questions, contact Rich Pierro at richard_s_pierro@ieee.org or rspierrro@optonline.net or 516-628-3156.

----- ***Detach and please submit with check*** -----

Name _____ Phone _____ e-mail _____

Payment amount \$ _____ (Cost: \$30 IEEE, ASME, AIAA members; \$20 student members)

Make check payable to "IEEE Long Island Section" and submit to: IEEE AES Society, c/o Richard Pierro; 7 Willow Ridge Road; Bayville, NY, 11709.

Final information will appear in the October Pulse. Payment must be received no later than October 2nd. Members must show membership ID at the lecture.

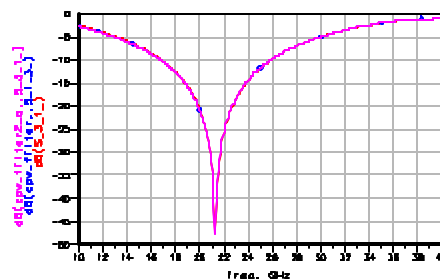
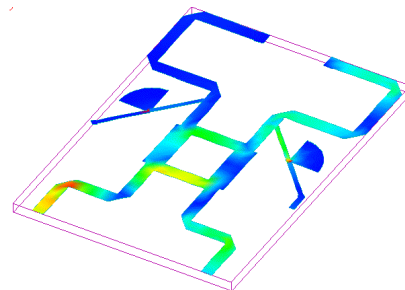
The Long Island Chapter of the IEEE Microwave Theory & Techniques Society is presenting a lecture titled:

What's All This Planar EM Simulation Stuff, Anyhow?

Mr. Murthy Upmaka – Agilent Technologies

Wednesday, 2003 October 22 at 6:30 PM

(This seminar is free and all are invited. Appetizers/snacks/beverages will be served at 6:00 PM.)



Who Should Attend?

RF/Microwave engineers involved in the development of high-density/high-frequency circuits especially where component and/or trace coupling is a significant concern.

Abstract:

With the internet revolution and bandwidth consumption of recent days, wireless and wire-line products need to operate at much higher frequencies than in prior years. With increasing frequency, transmission line effects and parasitic effects need to be considered in almost every aspect of the product design. This also includes the effects of packaging on the RFIC. This presentation will explore some of the capabilities of Agilent's Advanced Design System and Momentum RF, to provide the necessary understanding of these effects during the design cycle.

Seminar Coordinator:

James Colotti, Chair of the IEEE Microwave Theory & Techniques Society, LI Section

Speaker Bio:

Murthy Upmaka has been with HP/Agilent Technologies for almost 7 years as an applications engineer and an R&D engineer. He recently started his current assignment in which he works with customers to make them successful with Agilent EEs products. Just prior to this, he was the Lead engineer in the development of a Test system for multi-carrier power amplifiers used in wireless base stations. Murthy spent the majority of his career in the high-frequency design area, developing microwave components and systems for defense. He has a PhD in Physics and is a Senior Member of IEEE.

Location:

This seminar will be held at Telephonics Corporation located at 815 Broad Hollow Road in Farmingdale. Appetizers, snacks & beverages 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 before the seminar begins.) The lecture is expected to last 1 to 1.5 hours. Admission is free and all are invited, however, pre-registration is required.

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 <http://www.ieee.li/calendar.htm>, click on the registration link, and fill out the form.



The IEEE Long Island Section is Proud to Announce the Creation of

The Athanasios Papoulis Award for Excellence in Engineering and Technology Education

Dedicated to the memory of Professor Athanasios Papoulis,
Polytechnic University (1921 – 2002)

By adopting Athanasios Papoulis Award for Excellence in Engineering and Technology Education, the IEEE Long Island Section aims to underscore its commitment to promoting quality technical education on Long Island.

Criteria for Nomination

Candidates for this award must be educators in engineering, science, or mathematics, either living or teaching within the boundaries of the Long Island Section of the IEEE (Nassau and Suffolk Counties, NY).

Like Professor Papoulis, a candidate must have demonstrated innovative teaching techniques, and at the same time shown passion and enthusiasm for engineering and science, so as to motivate and inspire students. Moreover, the candidate must place priority on the interests of the students, and on the quality of the education they receive.

The candidate must be a member of and should promote student involvement in the IEEE.

Nomination and Award Process

As is the case with each of the Long Island Section awards, nominations for the Athanasios Papoulis Award must be submitted to the IEEE Long Island Section Awards Committee by December 31 in time for the annual Awards Ceremony held the following spring. Nominations can be e-mailed to Jjtaub@aol.com, or submitted online at <http://www.ieee.li/awards/awards.htm>

Each LI Section award recipient will receive a framed, custom-inscribed, award certificate during the ceremony.

(Continued from page 4) allows hiring 5-10 engineers overseas for the price of one here?

Is it an advantage for engineering functions to be performed close to the company site or in the same time zone? Many argue that companies prefer to keep their engineering design jobs close at hand in order to safeguard the company's intellectual property. But the offshore outsourcing trend clearly encompasses engineering design services. And what is proximate to the large global or virtual corporation that engages in 24-hour-a-day operations by moving work from time zone to time zone?

While jobs are being sent overseas, news on the home front is also discouraging. The unemployment rate for electrical engineers rose to an unprecedented 7.0 percent in the first quarter of 2003, according to the U.S. Department of Labor, Bureau of Labor Statistics, and stood at 6.4 percent for the second quarter. The most recent report also showed a 7.5 percent unemployment rate for computer programmers, 5.7 percent for computer hardware engineers and 5.6 percent for computer scientists and systems analysts. The rate for all workers was 5.6 percent. Despite this record-high engineering unemployment, industry continues to defend increased outsourcing and the use of guest labor (such as H-1B and L-1 visa workers) by arguing that not enough U.S. students are entering engineering programs or pursuing technical careers. Government is starting to join the chorus as the large Cold War generation of government engineers reaches retirement age. But if all an engineering career can promise is job insecurity and low pay on one hand, or red tape and a government salary on the other, why would America's best and brightest choose engineering as a career path?

Lacking a clear edge in price, skills or proximity, what is the future for U.S. engineers? Do we just need to abandon certain areas and fields of engineering in the same way that the U.S. said good-bye to textiles and steel in the name of free trade?

Will job opportunities be limited to government-related work or infrastructure-related industries such as electric power generation and transmission, or phone service where U.S. citizenship or proximity is imperative?

As an engineer who has had to reinvent myself a dozen times during a 24-year career in order to stay competitive, I have to ask myself if an overseas competitor in Belarus, Beijing or Bangalore possesses the same skills that I do, and if proximity isn't important, and if they'll work for \$800 a month, then why hire me at \$8,000 a month? It's a question that is increasingly hard to

(Continued on page 15)

(Continued from Page 1)

- Joint activities with the Long Island Chapters of other engineering societies, including The American Society of Mechanical Engineers (ASME), the Institute of Aeronautics and Astronautics (AIAA), the Instrument Society of America (ISA), and the Society of Women Engineers (SWE).
- Support of local organizations concerned with the improvement in the quality of technical education on LI, including the LI Museum of Science and Technology (see page 9 of this newsletter), The Center for Science Teaching and Learning, and the Long Island Science and Engineering Fair.
- Planning for a Leadership-Skills Workshop for engineers in the workplace, with the goal of helping LI engineers achieve advancements for themselves and successes for the companies they work for, in an effort to support the expansion of the technology-development business on LI. (See page 7 of this newsletter.)
- Vastly improved and expanded website located at www.ieee.li, including web pages for LI Society Chapters, on-line LI Section Award nomination form, multimedia minutes (pictures with short captions of highlights from our ExCom meetings, lectures, seminars, awards banquets, and other meetings), pictures and biographies of our volunteers (officers, chapter chairs, affinity chairs, committee chairs), calendar of events with on-line registration for lectures and seminars, postings of our newsletter, postings of letters to the Chairman from Section members.
- Planning for a very successful 2003 Awards Banquet, which included a keynote address by LI Congressman Steve Israel, and planning for the celebration of the 50th anniversary of the Section.

Charles has also actively contributed to the Long Island Section by offering seminars and tutorials for the Section on topics including HTML, and multimedia and wireless technologies. Moreover, Charles will be the instructor for the upcoming Leadership Skills Workshop for engineers in the workplace that I mentioned above. (Again, see page 7 of this newsletter.)

For Area B, Charles has been equally valuable as its first-ever elected Chairman. His credentials and qualifications are superb, and you can read more about him on page 5 of this newsletter.

I strongly support Charles Rubenstein in his bid for Region 1 Director, and I ask the entire Long Island Section do so as well. I look forward to his continued leadership on an expanded scale within our Region, so that an even greater number of IEEE members will benefit from his experience, his creativity, his diplomacy, and his hard work and dedication.

In addition to Charles Rubenstein, we have been honored this year with many other important visitors to your Executive Committee meetings. Ed von Gerichten, Director of Software Engineering for Telephonics Command System Division, and Bruce Willins and Raj Bridgelall, VP and Director of R&D at Symbol Technologies, have all sat in and contributed their resources and experiences. Art Rossoff and Fred Kruger, Directors of the Long Island Museum of Science and Technology, have attended several meetings, and have helped solidify IEEE's relationship with LIMSAT. Val Marsocci, retired Assistant Dean of the School of Engineering and Computer Science at SUNY Stony Brook University, has joined us, and has added tremendously to our efforts to encourage quality engineering and science education on LI. Gregory Hovagim and David Blum, President and Vice President of the SUNY Stony Brook Student Branch, and Farhan Hamlani, Director of Region 1 Student Affairs, are regular visitors, and are providing valuable insight for our student-involvement and membership-development efforts. I would like to thank all of these enthusiastic IEEE members for their time and talent, and I would also like to remind you that any IEEE member is always invited to attend and participate in any Executive Committee meeting, which are held on the last Monday of each month, with some exceptions. See the calendar of events on page 3 of this newsletter for details, and please feel welcome to join us!

Best regards,
Dave Mesecher

(Continued from page 14) answer. For the next generation considering a career in engineering, it will be even harder.

Paul Kostek is the 2003 Chair of the American Association of Engineering Societies and a past president of The Institute of Electrical and Electronics Engineers ? United States of America (IEEE-USA). The views expressed here are his own. Our college enrolments are down because our talents citizens are too smart to study in fields that will not afford them an adequate standard of living when we lower our standard of living to the "Globe". It would seem that there are not enough resources on this planet to go around.

If this reeks of sarcasm, how else can one say this. The above is my own opinion and not the official opinion of IEEE or the Section. The following reprint will demonstrate the some of the facts that have led me write the above,

You don't have to be a consultant or intend to become one to attend meetings of the IEEE Consultants' Network of Long Island. We have excellent technical and software/computer related presentations at our monthly meetings (7:00 PM on the first Wednesday of each month.) See the web site at www.consult-li.com

You may contact me with questions or comments at j.weitman@ieee.org or 1(631)266-2651. Irwin

30 YEARS AGO

Rod Lowman, Historian

Just three decades ago, L.I. Section members were introduced to voice recognition applied to the control of industrial machines and other commercial applications. Michael Nye, Vice president of Marketing for Threshold Technology, described and demonstrated the VIP-100, a voice controlled machine that recognized verbal commands and converted them into digital signals controlling industrial machines. To assure complete correctness in the control, the digital control signals were displayed before being applied. This permitted verification, hands free operation of the machine and reduced the time since voice commands could speed the input of instructions and the hands could be used for other operations.

A pioneer in voice recognition, Mr. Nye had developed a number of systems in the last five years using voice recognition. Some of these were used by aircraft companies and airlines in the baggage handling and other functions. To give the members of the audience a real appreciation he had a VIP-100 control system which they could "talk to" to demonstrate the control function. Planned jointly by the IEEE Section and the American Society for Quality Control the meeting demonstrated the benefits of the bridging of the two technologies. I think we should have many more cooperative programs with other technical societies~ it brings in new ideas and makes the IEEE better known within the technical community.

It is surprising how voice recognition has become so widespread since that time, especially in communications. With recorded automated voice instruction and voice recognition response a human operator has become a rarity. As with many technical areas, IEEE presentations are often a harbinger of things to come, like seeing into the future.

It is truly amazing what has been done with voice recognition but I must admit there are times when I long for the chance to talk with a real human being rather than listen to a computerized voice requesting instructions to the next layer in a long menu of possibilities. As wonderful as technology is I miss the personal touch. At church last Sunday the minister was extolling the benefits of prayer and I agreed with him that there were great advantages. For example, you never get a busy signal and you don't have to sort through six layers of menu before you can deliver your message. At least some things stay the same.



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