THE PULSE OF LONG ISLAND IEEE

Chairperson's Message by Santo Mazzola, chairman@IEEE.LI

I would like to wish everyone a Happy New Year and hope the holiday season was enjoyed by one and all. As the new chairman of the Long Island Section I would like to thank the past chair, Bill DeAgro, for a job well done. I would also like to thank the rest of the Executive Committee for a terrific 2008. I would also like to thank all of the Long Island Section members for electing me as the Long Island Section Chairman for 2009.

A little about me, I am an engineer. I am a "working engineer." In the tough economy we are experiencing and the tough times ahead, that has multiple meanings. My specialty is electromagnetic compatibility engineering. I have been an engineer for over 25 years.

In 2009, an important milestone occurs: the IEEE celebrates its 125th anniversary. Announcements of 125th anniversary IEEE events will be forthcoming. The actual anniversary date is May 09, 2009. The IEEE traces its origins to the founding of the American Institute of Electrical Engineers in 1884 and will host activities around the world to celebrate the event. Some of the founding members included Thomas Alva Edison and Alexander Graham Bell among others. We are all a part of something special and should be proud of it.

We will have our annual Long Island Section Awards Banquet in March and we will be putting on the fifth annual (LISAT) Long Island Systems, Applications, and Technology Conference in May. Further details about these events are on the www.IEEE.LI website and in this issue of *THE PULSE*.

One of my goals and the IEEE's for 2009 is to celebrate volunteerism. I wish to personally thank all of the members of the Long Island Executive Committee (ExCOM). When I look around the room at one of our monthly meetings I can't help but notice that many of the ExCOM members have been involved for many years, some too many to count. What it says to me is that these are people that care about engineering and find it rewarding to support and further the occupation.

For 2009, there are plenty of challenges for the Long Island Section; we need to reach out to the members. Ask them what they want and need. It is easier said then done, especially in difficult times. I am going to start right here. The Long Island Section has an open Executive Committee meeting the last Monday of every month at Telephonics in Farmingdale. The Executive Committee meetings for 2009 are listed on the **IEEE Long Island Section Calendar** on the last page of this newsletter. All of our members are invited. It is an open meeting. Come, listen, and observe 'what is going on', it will be a learning experience; it will be good for you and it will help your career. Just drop me an email and I will give you the details about attending. Also visit our award winning website which has a plethora of information and various resources to help you in your day-to-day job.

If you are reading this it is safe to say that you care about engineering, come and get involved and enable engineering but also come and enable your own career.

Santo Mazzola, Chair IEEE Long Island Section
chairman@IEEE.LI

CALENDAR OF IEEE EVENTS

JANUARY

22 Communications Society
Fundamentals of Satellite Communications, Part II
Speaker: Howard Hausman
BAE Systems, Greenlawn NY
Refreshments 6:00 PM, lecture 6:30 PM

28 MTT Society
Topic: *High Voltage Vertical Transistors for High Power RF Applications*
Speaker: Brian Battaglia
Location Telephonics, Farmingdale
Refreshments 6:00 PM, lecture 6:30 PM

29 Circuits and Systems Society
Using Recursive Differential Equations
Speaker: John Dunn
BAE Systems, Greenlawn NY
Refreshments 6:00 PM, lecture 6:30 PM

FEBRUARY

4 Communications Society
Cooperative Wireless Communications
Speaker: Shivendra Panwar
Polytechnic NYU, Melville LI
Refreshments 6:00 PM, lecture 6:30 PM

26 Circuits and Systems Society
Voltage Feedback vs. Current Feedback Amplifiers
Speaker: Xavier Ramus
BAE Systems, Greenlawn NY
Refreshments 6:00 PM, lecture 6:30 PM

MARCH

25 MTT Society
Flexible Volterra-based Digital Pre-distortion for RF Power Amplifier Linearization
Speaker: Hardik Gandhi
Location TBD
Refreshments 6:00 PM, lecture 6:30 PM

26 Long Island Section 2009 Awards Banquet
Hyatt Regency, Hauppauge LI
6:30 – 10:00 PM

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THE PULSE OF LONG ISLAND

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PULSE CONTACTS

David W. Sterner, Editor
Nikolaos Golas, Associate Editor

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LET US HEAR FROM YOU

The PULSE encourages letters to the editor. Members 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.

SEND ADDRESS CHANGES TO

The PULSE of Long Island
P.O. Box 1331
Piscataway NJ 08855-1331

LONG ISLAND SECTION OFFICERS

Chair

SANTO MAZZOLA
BAE Systems
Office 631-262-8367
mazzolas@ieee.org

First Vice Chair

JON GARRUBA
Northrop Grumman Corporation
Office 631-704-4697
jon.garruba@ngc.com

Second Vice Chair

NIKOLAOS GOLAS
Telephonics Corporation
Office 631-755-7059
n.golas@ieee.org

Treasurer

BRIAN QUINN
Verizon
Office 212-856-1354
brian.j.quinn@verizon.com

Secretary

SUSAN FRANK, Ph.D.
SUNY Stony Brook
Office 631-361-8667
sfrank@ieee.org

Junior Past Chairman

WILLIAM C. DEAGRO
Northrop Grumman Corporation
Office (516) 575-6217
w.deagro@ieee.org

Senior Past Chairman

TED PAPPAS
National Grid
Office 516-545-4011
Theodore.Pappas@us.ngrid.com

Membership Development

For information on membership in the Long Island Section of IEEE
NIKOLAOS GOLAS
Telephonics Corporation
Office 631-755-7059
n.golas@ieee.org

Consultant's Network of LI

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
www.consult-li.com

GOLD
Graduates Of the Last Decade

GOLD Long Island Section Affiliate and Student Development / Activities

MICHAEL J. CO
Parker Hannifin Corporation
Parker Aerospace – Electronic Systems Division
Office 631-231-3737 ext. 2123
michael.co@ieee.org

Help the Long Island Section Grow Volunteer Now!

www.IEEE.LI

Call for Fellow Nominations

by Nikolaos Golas, Pulse Associate Editor

Fellow nominations are now being accepted for the IEEE Fellows class of 2010. The deadline for these nominations is **March 1st 2009**.

The grade of IEEE Fellow recognizes unusual distinction in the profession and shall be conferred only by invitation of the Board of Directors upon a person of outstanding and extraordinary qualifications and experience in IEEE-designated fields, and who has made important individual contributions to one or more of these fields. Senior Members can be nominated in one of four categories: application engineer/practitioner, educator, research engineer/scientist or technical leader.

For additional details on the IEEE Fellow Program check:

www.ieee.org/fellowprogram

Steps to Becoming a Fellow

Do you know an IEEE colleague who has made outstanding contributions to the electrical and electronics engineering profession? If so, consider nominating him or her as an IEEE Fellow. The deadline for receipt of a complete IEEE Fellow nomination is **March 1st 2009**.

At the time the nomination is submitted, a nominee must be an IEEE Senior Member in good standing and he/she must have completed five years of service in any grade of membership. Note: IEEE affiliate membership, does not apply. The nominee cannot be a member of the IEEE Fellow Committee, an IEEE Society/Technical Council Fellow Evaluating Committee Chair, or a member of IEEE Society/Technical Council Fellow Evaluating Committees reviewing the nomination.

Nominator's Responsibilities

Any person, including non-members, is eligible to serve as a nominator with the following exceptions: members of the IEEE Board of Directors, members of the IEEE Fellow Committee, IEEE Society/Technical Council Fellow Evaluating Committee Chairs, members of IEEE Society/Technical Council Fellow Evaluating Committee reviewing the nomination, or IEEE Staff. Self-nomination is not permitted. The nominator is responsible for:

Preparing the IEEE Fellow Grade Nomination Form

Solicit at least five, but no more than eight references capable of assessing the nominee's contributions. A Reference must be an IEEE Fellow in good standing. In addition, there is an option of soliciting no more than three endorsements capable of supporting the nomination. Any person, including non-members, may be an Endorsement. A nominator may not serve as an endorser for a nomination he/she is submitting. In addition, identify an IEEE Society/Technical Council whose evaluating committee will assess the nominee's technical qualifications and contributions.

The Evaluation Process

The process consists of two reviews. The first evaluation is completed by the IEEE Society/Technical Council that the Nominator identified on the nomination form. The Society/Technical Council evaluation is extremely important, because it is an impartial and even-handed view of the nominee's merit, by persons who are familiar with his or her work. Once the Society/Technical Council review is completed, their comments are given to the Fellow Committee.

All nomination materials are forwarded in confidence to the IEEE Fellow Committee. All committee members are IEEE Fellows and selected to represent the 10 IEEE Regions, and have expertise in the technical areas represented by IEEE societies/councils.

The Fellow Committee recommends nominees to the IEEE Board of Directors, according to the following criteria.

- Significant contributions as Application Engineer/Practitioner, Educator, Research Engineer/Scientist, or Technical Leader
- Evidence of technical accomplishments
- Evaluation by the IEEE Society/Technical Council selected by the nominator
- Confidential opinions of references and endorsers
- Service to other professional engineering societies
- Total years in the profession

Each nominee is rated numerically on the basis of this information.

Submittal to Board of Directors

The Fellow Committee submits its slate of nominees to the IEEE Board of Directors during the 3rd quarter, and the Board acts upon those recommendations at its year-end meeting. According to IEEE Bylaw I-306.8, the total number of Fellow recommendations in any one-year must not exceed one-tenth of one percent of the voting membership on record as of 31 December of the year preceding.

For further information check the IEEE Fellow Grade Applications and Instructions page at:

www.ieee.org/web/membership/fellows/fellow_apps.html

The PULSE Congratulates our newly elected IEEE Long Island Section 2009 Officers

Chairman
Santo Mazzola, BAE Systems

First Vice Chairman
Jon Garruba, Northrop Grumman Corp.

Second Vice Chairman
Nikolaos Golas, Telephonics Corp.

Secretary
Susan Frank, SUNY Stony Brook

Treasurer
Brian Quinn, Verizon

We would like to thank the outgoing Chairman William C. DeAgro and all retiring 2008 Officers for their efforts!

Message from the Legal Affairs Chairman

In the recent case of *Qualcomm v. Broadcom*, the Court of Appeals for the Federal Circuit ruled on issues relating to the submission of intellectual property to a standard setting organization (SSO).

Qualcomm attempted to assert patents relating to video compression technology against Broadcom. The problem was that Qualcomm was a member of the Joint Video Team SSO, created to develop a standard in video compression technology (i.e., the H.264 standard), but did not disclose that it had patents relevant to the standard. Can Qualcomm sit idly by, wait for the standard to be implemented and then sue everyone in the industry that complies with the standard?

In order to protect industry participants that invest significant resources in developing products to meet standards, many SSOs as a policy require participants to disclose and/or give up intellectual property relating to a standard. The threshold question is whether the particular company had a duty to disclose intellectual property in accordance with the policies of the SSO. If the policies are ambiguous, how do other participants understand the policies? Here, the court said there was language in the policies indicating that intellectual property should be submitted. This was true both from the language of the policies and from what other participants understood of the policies.

The next question is if there is a duty, what needs to be disclosed? The court said a company must disclose any intellectual property that a reasonable competitor would expect to require a license in order to practice the standard. And was there was a breach of duty? In this case, Qualcomm did not disclose the pertinent patents. As products complying with the standard read on the claims in Qualcomm's patents, those patents were reasonably necessary to practice the standard and should have been disclosed. Therefore, Qualcomm breached its duty. Moreover, as Qualcomm brought a case for patent infringement, clearly those patent claims were reasonably necessary to practice the standard because Qualcomm itself felt products that practice the standard infringe its patents. So what is the remedy? The court ruled that Qualcomm's patents were unenforceable against all H.264 compliant products.

As members of the IEEE, which is an SSO, it is imperative that you keep track of potential standards being developed in your technology area. The Qualcomm case suggests that silence could possibly result in unenforceable patents relating to those standards.

Steve Rubin Steve@RubinIPLaw.com

Long Island Section Forum

Globalization is a term used today to define the process of increasing the connectivity and interdependence of world markets and businesses. It is the economic integration of the entire world through the removal of barriers to free trade and capital mobility, as well as through the diffusion of knowledge and information.

In the context of globalization, think of where outsourcing and offshoring fit. Do they provide any long-term benefits for the United States? How about developed and undeveloped countries? How about here, on Long Island?

Consider our position as an international power, one half century ago. We were the richest country in the world. Since then, we've sold our factories, we've sold our resources, we now buy other countries' products because we cannot afford to manufacture and sell them ourselves. We are now economically "poor".

Today, we have a problem educating our young people to the level that we were used to. The financial burden that the average American family must bear to educate their children has surpassed their ability to pay.

Yet, at the same time, we educate the rest of the world…..take a walk to the halls of any university and you will see that more than half are students from other countries. Soon, they will return to their homelands, reaping the benefits of our educational system. Soon, they will be educating themselves.

The Long Island Section will hold a Forum in the late spring of 2009 to explore the impact of Globalization here on Long Island, relative to outsourcing and offshoring.

If you have any thoughts, ideas, questions, and the like, you will be welcome to bring them before a panel of distinguished speakers.

Further details will be provided in the coming months…….look for them.

Be prepared for an exciting Forum!!!

IEEE Continuing Education Units

In the IEEE, education occurs at many levels. Our Technical Societies offer tutorials, technical programs and short courses at conferences; Sections and Chapters sponsor short courses and talks at their meetings. At the Institute level, the IEEE website provides access to a wide range of courses and other educational activities that are available through the Internet. The following pages will provide information on how Sections and Societies can award IEEE CEUs for their CE programs.

IEEE is an Authorized Provider of CEUs through The International Association of Continuing Education and Training (ANSI/IACET), and has adopted ANSI/IACET guidelines and criteria for all its continuing professional development programs. Authorized Providers of the ANSI/IACET must reapply every five years to maintain their "Provider" status. IEEE Educational Activities completed the rigorous application, underwent a site visit, and is delighted to announce that the ANSI/IACET Commission has once again approved IEEE's Authorized Provider Status.

Currently thirty states require Professional Development Hours to maintain P.E. licensure, encouraging engineers to seek CEUs for their participation in Continuing Education programs. CEUs readily translate into PDHs (1CEU=10 PDHs). Evidence of participation in these courses also helps engineers meet company training requirements.

BE SURE TO RENEW YOUR IEEE MEMBERSHIP FOR 2009

Region 1 GOLD Website

IEEE Region 1 GOLD aims to inspire young engineering graduates to become involved in their profession, career and the IEEE. We strive to achieve our goals by offering both technical and professional lectures as well as organizing many social and networking events during the year. By volunteering your time and energy to plan, organize, and lead activity meetings and conferences will enrich not only your leadership and management skills, it will also enhance your career professional growth.

If you are interested to get involve in Region 1 GOLD activities, or want to find out more about what we are doing, please e-mail the Region 1 GOLD Coordinator Uri Moszkowicz at uim@ieee.org.

Region 1 GOLD (Graduates of the Last Decade) has successfully developed and organized an extensive list of programs, activities, seminars, and conferences in the past few years. Since its launch in 1996, Region 1 has formed 13 GOLD Affinity Groups; they are

Binghamton (2007)
Boston (1999)
Buffalo (1999)
Connecticut (2001)
Green Mountain (2001)
Long Island (2008)
Maine (2006)
New York (2000)
North Jersey/NJ Coast (2001)
Princeton/Central Jersey (2001)
Providence (2004)
Rochester (2001)
Worcester (2006)

With the vision to increase the value of IEEE services and programs to young professionals and recent graduates, the GOLD leaders have been energetically organizing numerous activities for their GOLD members. Their mission is to develop programs and foster relationships, to provide tangible value to members, to promote the GOLD program to students, and to recruit, develop, and nurture volunteers.

IEEE Approves Revision to Rechargeable Batteries Standard for Multi-cell Mobile Computing Devices

Contact: Karen McCabe, IEEE-SA Marketing Director, 732-562-3824, k.mccabe@ieee.org

PISCATAWAY, N.J., USA, 17 December 2008 -- The IEEE has approved a revised standard, IEEE 1625™, "Standard for Rechargeable Batteries for Multi-Cell Mobile Computing Devices." The standard describes how to design batteries for use in mobile computing devices. "The revised standard focuses on the design approaches for mobile computing devices, such as notebook computers," says Jean M. Baronas, Chair of the Working Group that developed the standard.

"The standard addresses critical operating parameters, how such parameters change with time and environment, and the potential effects of external factors, such as temperature, by taking into account a total system view." IEEE 1625-2008 establishes criteria for design analysis for qualification, quality and reliability of rechargeable battery systems for multi-cell mobile computing devices by providing methods for quantifying the operational performance of these batteries and their associated management and control systems including considerations for end-user notification.

The battery technologies addressed include to lithium ion and lithium ion polymer. Other provisions of the standard address the battery pack electrical and mechanical construction, system, pack, and cell level charge and discharge controls, and battery status communications. The standard also addresses the following: qualification process; manufacturing process control; energy capacity and demand management; levels of management and control in the battery systems; current and planned lithium-based battery chemistries, packaging technologies, and considerations for end-user notification.

IEEE 1625 was sponsored by the IEEE Power Engineering Society Stationary Batteries Committee, and developed under the auspices of the IEEE-SA Corporate Program. Twenty-six companies were involved in developing the standard, including Apple Computers, Dell, Hewlett Packard, Intel, Sony and Tyco Electronics.

IEEE Encourages Consumers to Learn about the February 17, 2009 Analog to Digital Broadcast TV Transition

For the last nine years, the broadcast industry has been preparing for a fundamental shift in the way that broadcast signals are delivered to the American public. The actual full-power transition from analog television to exclusive use of digital television formally began in May 1999 and will be completed on February 17, 2009 at 11:59 p.m. when all full-power analog signals are required by Congressional law (Digital Television Transition and Public Safety Act of 2005) to be turned off.

The IEEE, along with numerous leading broadcast and technology organizations, is helping to ensure that the public is aware of this change and is armed with the information and resources to make necessary changes. Additionally, the IEEE wants to ensure that consumers understand the benefits available to them by taking full advantage of the digital signal. As part of the IEEE initiative, the organization has developed a Frequently Asked Questions document, which it is circulating to all major media outlets and posting on several Web sites.

Toshiba's Japanese Language Word Processor Receives Prestigious IEEE Milestone Award

TOKYO--Toshiba Corporation today announced that the company's JW-10 Japanese Language Word Processor has been certificated under the IEEE (the Institute of Electrical and Electronics Engineers, Inc.) Milestone Program. The decision acknowledges the immense impact of Toshiba's development of the JW-10: not only was it Japan's first word processor, it was a breakthrough that brought the age-old complexity of the Japanese language into the age of computing, and opened the way for information technology to enter into every sphere of modern Japanese life.

The IEEE, the world's leading professional association for electrical and electronics engineers, established the Milestones Program in 1983 in order to recognize important historical achievements from at least twenty-five years ago in areas of technology represented in IEEE, and that had at least a regional impact. More than eighty milestones have been awarded worldwide, including seven in Japan. The award for Toshiba's development of the Japanese-language word processor is the eighth Japanese milestone.

IEEE milestone plaques recording the award will be permanently displayed at Toshiba's Corporate Research & Development Center and at Ome Complex, the two facilities most closely involved in the JW-10 development.

Toshiba started research and development of the Japanese-language word processor in 1971 and developed a practical system, the JW-10, in 1978. It was first demonstrated at an exhibition in October 1978, and the first machine shipped in February 1979. Before the Japanese-language word processor, users of Japanese were eager for a means to produce Japanese text as easily as users of English could type alphanumeric characters, since the thousands of kanji characters, plus two kana phonetic scripts, hiragana and katakana, made it both costly and time consuming to compose typed Japanese text. JW-10 supported easy input of Japanese text with efficient software for kana-to-kanji conversion, plus a display and a high-resolution kanji printer.

Following the release of JW-10, other electronics companies followed Toshiba in developing Japanese-language word processors, and progressively smaller machines were developed and brought to market. The development of smaller word processors promoted their spread from the office into the home, and also spurred downsizing in technology for printers, LCDs, FDDs, HDDs, and ASICs. Nowadays, software developed for Japanese-language word processors is installed on tens of millions of personal computers and mobile phones in Japan.

Toshiba's breakthrough in Japanese-language word processing combined modern information technology with kanji and kana characters, the age-old means for the transmission of Japanese culture, and opened the way to making information technology available in every sphere of life for speakers of Japanese.

IEEE Continuing Education

In the IEEE, education occurs at many levels. As a learner you have access to IEEE short courses at conferences and Section meetings, society education offerings, university and corporate partner programs, certificate programs, speakers, consultants, on-line learning resources, print materials and conferences. Many of these IEEE education experiences offer Continuing Education Units (CEU) and Professional Development Hours (PDH).

BAE SYSTEMS SECURES $112 MILLION FOR ARMORED VEHICLE UPGRADES AND SUPPORT

16 Dec 2008 - York, PA – BAE Systems will provide engineering upgrades, spare parts, maintenance documentation and logistical support to RG33 Mine Resistant Ambush Protected (MRAP) vehicles under a dozen separate contracts from the U.S. Army. The total value of the contracts is $112.9 million.

The RG33, one of five different MRAPs ordered by the U.S. government, features strong protective armor and a v-shaped hull, designed to deflect the impact of blasts from mines. The U.S. military has cited the protection provided by MRAP vehicles as a reason for the decrease in the number of military casualties in Iraq.

The largest group of contracts, worth a combined $99 million, is for field service support. BAE Systems will provide field staff to work side-by-side with service members who will be using the vehicles in theater.

“Through training and support at installation sites across the U.S. and various locations in-theatre, we ensure that soldiers receive the instruction needed to execute successful missions while using these vehicles,” said Matt Riddle, vice president for Wheeled Vehicle Programs at BAE Systems.

Activities associated with these awards include:

- $3.2 million for engineering changes that improve vehicle performance for Heavy Armored Ground Ambulance (HAGA) and Special Operation Command (SOCOM) variants;
- $8 million for training, maintenance and logistics support documentation; and
- $2.7 million for replacement RG33 parts.

Work under the contract will begin immediately by the existing workforce, and will run through December 2009. The contract is managed by the Army’s TACOM Life Cycle Management Command.

Membership News

by Nikolaos Golas, Pulse Associate Editor

The IEEE Long Island Section would like to welcome all the new members that just joined us and the members that moved to our section.

The new members should familiarize themselves with what the Section has to offer by visiting the Long Island Section website at: www.IEEE.LI

New Members

Behrouz Aghili - M	William Pawlowski - M
Marshall Casio - M	Stan Ramsden - M
Daniel Cohen - M	Young Chol Song - S
Mark Evans - S	Frantz St. Phar - M
Jacob Genauer - S	Alex Tkatchev - S
Jon. Hettena - S	Steven Vasica - M
Syed Hussaini - S	Steven Viola - S
K. Knockenhauer - S	Fengjun Xi - M
Jack Masor - AF	

Members Moved into Section

Moise Aujour - S	James Mammen - AF
Andrew Baisch - M	Georgios Marketakis - A
T. David Bomzer - M	William Mc Shane - LM
Yevgen Borodin - G	Thomas Nuzzi - S
Mark Evans - S	Aleemuddin Quadri - M
Daniel Ford - S	S. Spielberger - LS
Naveen Kumar - A	

Membership Legend

A=Associate Member, AF=Affiliate F=Fellow, G=Graduate Student Member, LM= Life Member, LS= Life Senior, M=Member, S=Student Member, SM=Senior Member

We Wish a Very Happy and Prosperous New Year to All Our IEEE Members. Have a wonderful journey in this New Year 2009

Dayton T. Brown - Body Armor Conditioning Testing

The NIJ (National Institute of Justice) has significantly revised their Ballistics Testing standard, NIJ 0101.06. Among the changes, it now calls for Environmental Conditioning Testing, in order to subject body armor to simulated conditions of heat, moisture, and mechanical damage.

Improvements in the standard are a result of an extensive engineering study to address real world conditions that can degrade body armor performance.
The revisions to this standard come after recent unfortunate incidents where bullets penetrated the body armor.

The new NIJ 0101.06 standard takes into account the degradation of armor over time. It includes specifications for mechanical agitation, humidity levels, water immersion, and temperature.

Dayton T. Brown is NIJ / NVLAP accredited to carry out the Body Armor Conditioning Testing required to meet this standard, by providing cyclical temperature and humidity exposure, while tumbling the vest samples.

HONEYWELL WINS ASIA-PACIFIC AWARD FOR MOST INNOVATIVE POWER TECHNOLOGY OF 2008

Advanced Process Control and Optimization Project Recognized for Improving Business Performance at Sinopec Power Plant

SINGAPORE, 12/18/2008 – Honeywell (NYSE: HON) has been honored with the 2008 Most Innovative Power Technology of the Year Award from Asian Power magazine. Honeywell earned the category's Silver Award for a first-of-its-kind advanced controls project that helped China Petroleum and Chemical Corp. (Sinopec) increase electricity generation while curbing coal consumption at Shanghai Petrochemical Company Principal Power Plant in Shanghai.

By implementing Honeywell's Advanced Energy Solutions, a suite of advanced control software applications, Sinopec has increased the boiler efficiency by 0.5 percent, increased the operating steam temperature by 2.1 degrees Celsius and improved stability of key combustion process variables. The air pollutant emissions from the fuel and limestone consumption have been decreased to comply with environmental standards in the region. Additionally, Sinopec is expecting to cut the consumption of standard coal by more than 500 tons and coke by 1,600 tons annually.

Using Honeywell's Advanced Energy Solutions, the plant improved the efficiency of its circulating fluidized bed (CFB) combustion process. The process uses crushed coal mixed with limestone that is heated up to 900 degrees Celsius to generate low-cost electricity with very low emissions. The Honeywell solution also helped to increase process efficiency by developing a closed-loop advanced control strategy to optimize the combustion performance and environmental compliance for the CFB boilers.

"As the first company in the world to apply advanced control application technology to CFB units, Sinopec significantly enhanced the effectiveness and control performance of the distributed control system at the CFB boiler level and for the entire plant," Zhao Weijie, Chief Engineer of Sinopec Shanghai Petrochemical Company, China. "Even more impressive, all improvements were achieved by implementing software rather than executing a major hardware refurbishment at the plant. We have also to date achieved an estimated $1 million of savings on the supply of energy to our refinery."

"Promoting reliable operations, implementing innovative strategies that reduce emissions and achieving the lowest operating costs possible are the new realities for the global power industry," said Amit Kansal, Global Business Director for Power, Honeywell Process Solutions. "With this project, Sinopec has set a positive example in the marketplace."

2009 AWARDS BANQUET

Thursday, March 26

The IEEE Long Island Section 2009 Awards Banquet will be held this year at the Hyatt Regency on Thursday March 26 from 6:30 PM to 10:00 PM. We will be honoring the recipients of the Long Island Section awards, as well as the recipients of the Region 1 awards.

The Hyatt Regency is located at 1717 Motor Parkway, Hauppauge, NY. 11788. As is tradition, the Long Island Section will be subsidizing the cost of admission, allowing us to offer this memorable commemorative affair to our members and their guests for a minimum cost. So mark your calendars and set aside Thursday Evening March 26th, and join us for good food, good talk, and good friends.

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Registration Form
2009 Awards Banquet
(Member and Member's guests - $30 each, Non-Members - $60 each)
Make checks payable to "IEEE Long Island Section"
Send form to:

Jon Garruba
IEEE Awards Banquet
292 S. Country Road
Brookhaven, NY 11719-9764

Name:
_____
Guest Name:
_____
Guest Name:
_____
Guest Name:
_____
Company:
_____
Address:
_____
City and Zip:
_____

Home Phone: _____

Business Phone: _____

Fax:_____

Email: _____

Amount enclosed: _____

Brain Teaser Challenge

By Butch Shadwell

When I was a kid I used to dream about being one the first humans on Mars. I figured the moon would have been done before I was ready to go up. It seems that I am quickly getting too old for the Mars trip too at this point. Oh well, I can still imagine what it would have been like.

Traveling to Mars poses so many difficult problems, not the least of which is shielding the passengers aboard the spaceship from solar radiation. If there should be a major solar flare in the direction of the ship while we were in interplanetary space the crew could easily be exposed to a lethal dose of radiation.

So just in case NASA calls me to design a radiation shield for the interplanetary vehicle, I thought I would do a few calculations. We know that the earth is protected from the solar wind (charged particles from the sun) by the earth's magnetic field. Over most of the planet, these magnetic lines of force (the B field) run roughly parallel to the surface of the planet north to south, except at the magnetic poles where the lines of force originate and terminate.

If a positively charged particle approached the earth from the sun, would it tend to be deflected to the east or the west? Maybe we could put a big bar magnet in our space craft to help protect the occupants.

Reply to Butch Shadwell at:
b.shadwell@ieee.org,

904-223-4510 (fax), 904-223-4465 (v),

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The names of correct respondents may be mentioned in the solution column.

www.IEEE.LI

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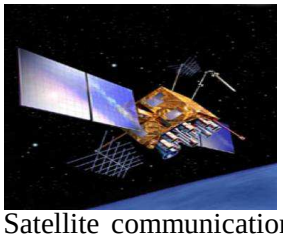
THE LONG ISLAND CHAPTER OF THE IEEE COMMUNICATIONS SOCIETY

is pleased to present a lecture on

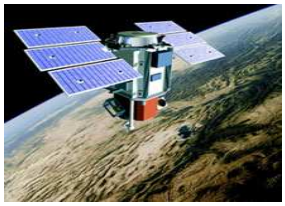
FUNDAMENTALS OF SATELLITE COMMUNICATIONS, PART 2



presented by

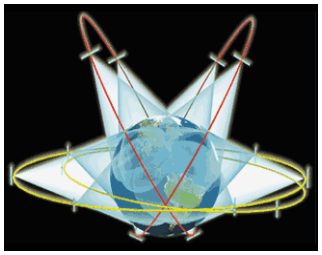
HOWARD HAUSMAN, PRESIDENT OF MITEQ, INC.

January 22, 2009, at BAE SYSTEMS,
450 Pulaski Road, Greenlawn
Pizza served at 6 PM. Lecture will begin at 6:30 PM
Q&A will follow the lecture.



Satellite communications have been around about 40 years and continue to be reconfigured to service a multitude of users with varying requirements and expectations. Initially satellites were used for direct point to point telephone communications. This was an attractive alternative to transoceanic cables. As the technology evolved it was realized that satellites were a natural topology for broadcast television, one satellite could broadcast signals to every home on the continent. Satellite communications remain competitive in the broadcast arena but have been relegated to a niche communications market e.g. mobile applications, isolated communities, undeveloped areas, etc.

The benefit of this lecture will be an explanation of the fundamentals and subtleties involved in point to point and broadcast transmission of signals from satellite or terrestrial locations. Starting off with the transmitting system and following the signal path through space to the receiving antenna and receiver, the effects of atmospheric loss and receiver noise are analyzed with respect to the signal to noise ratio and the ultimate ability of the communication system to recover the originally transmitted signal. An example is giving studying the effects of communicating through a geostationary satellite.



You should attend this lecture if you desire a better understanding of this vital portion of the communications technology community. The intention is not to train satellite communication engineers in one hour, but to give engineers in this and related fields a better understanding of the fundamental communications problem.

Howard Hausman received his BSEE and MSEE degrees from Polytechnic University and is currently President of MITEQ, Inc., Hauppauge, NY. During his career serving as Chief Technology Officer, Vice President of Engineering, and other related titles, he has designed microwave systems and components for satellite communications, Radar and reconnaissance systems that include receivers, transmitters, and synthesizers. Mr. Hausman was also an Adjunct Professor at Polytechnic University and Hofstra University where he taught graduate and under graduate courses in Electronic Engineering. He has presented many lectures and authored many papers relating to microwave systems, communication systems, Radar, and reconnaissance systems.

US Citizenship required. ***Admission is free but pre-registration is required. 0.1 CEU hours (equivalent to 1 PDH) available for $20.***

For registration and directions go to www.ieee.li, click on the *Calendar* link, and then click on the registration link for this event.

Lecture coordinator: Dave Mesecher, IEEE Communications Society LI Chapter Chair; d.mesecher@ieee.org

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Long Island Systems, Applications, and Technology

Save the Date: Friday, May 1, 2009

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The IEEE Long Island Section, in cooperation with its Technical Society Chapters and IEEE Region 1, will be holding the **2009 IEEE Long Island Systems, Applications, and Technology Conference (LISAT2009)** on Friday, May 1, 2009, in Lupton and Roosevelt Halls at Farmingdale State College, 2350 Broadhollow Road, Farmingdale, New York.

LISAT2009 Advanced Program

Track A

RFID for Personal Asset Tracking
Enhancing User Experience at Museums Using Smart Phones with RFID
RFID Wrist Band for Children in Elementary Schools
Image Sensor Requirements for 2D Barcode Scanning
Quo Vadis Face Recognition: Spectral Considerations
Parallel Computation Methods for Enhanced MoM and MLFMM Performance
Efficient Spectrum Sensing in Cognitive Radio Networks
Data Detection for MIMO WCDMA-HSDPA Systems
IEEE 802.11N WLAN Migration - Impact On System Capacity & Terminal Design
Resource Scheduling Heuristics for Data Intensive Networks
Improving Elevator Call Time Responsiveness via an Artificial Neural Network Control Mechanism
Health Monitoring Systems for Massive Emergency Situations

Track B

Natural ELF Electric Oscillations in Human Life
Use of Marine Current Turbines to Reduce Hurricane Intensity in the Gulf of Mexico
TDR-Inspection of Vast Tracts of Forests or Plants
Implications of Microsoft Vista File Systems for Computer Forensics Investigators
Strong Security Solutions for Low-resource Devices - the Algebraic Eraser
MIL-STD-461: The Basic Military EMC Specification and It's Evolution Over The Years
Tuki: A Voice-Activated Information Browser
Aperture Modeling & Simulation for Enhanced Performance
Characterization of CZT Materials for X-ray and Gamma-ray Detectors
CZT Virtual Frisch-grid Detector: Principles and Applications
Lunar Regolith Control and Resource Utilization

In addition to these two tracks, we are planning a third track dedicated to CEU / PDH credits.

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JANUARY

M	T	W	T	F	S	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
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FEBRUARY

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OCTOBER

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DECEMBER

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21	22	23	24	25	26	27
28	29	30	31			

Dates in grey indicate Executive Committee (ExCOM) meetings

2009 Awards Banquet Dinner March 26th	LISAT2009 Conference May 1st

REV. 1