

The



IEEE Newsletter

PUBLICATION OF THE NORTH JERSEY SECTION OF THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS

NJ Control Systems Chapter: **Acoustic and Ultrasonic Sensing Technologies as Applied to Structural/ Materials Testing and Process Control Monitor**

On December 4, 2008, the IEEE NJ Control Systems Chapter together with the New Jersey Institute of Technology will host a seminar on "Acoustic and Ultrasonic Sensing Technologies as Applied to Structural/ Materials Testing and Process Control Monitor." The speaker will be Terry Tamutus.

About the Talk

Acoustics Emission and Ultrasonics are two power techniques for inspection materials and structures. It is also used in process control applications in pharmaceutical and manufacturing. This presentation will discuss applications work with Boeing, NASA, Navair, Army, offshore oil platforms, nuclear reactors, aircraft, concrete, steel, composites monitoring and testing. Other applications include granulation, axle straightening, transformer testing, leak detection corrosion detection, metallic and composite pressure vessels. This presentation will cover current and new sensor development in air-coupled ultrasonic applications, acoustic emission sensors and MEMS, wireless and remote sensing systems for data acquisition and several other applications. This presentation will not focus on a detailed application but give a broad overview of the non-destructive testing industry and sensors/data acquisition systems used.

About the Speaker

Terry Tamutus has his degree in Mechanical Engineering from NJIT (BS 1987); Terry joined Physical Acoustics Corporation in 1988. He is a Corporate Level II and Director at Physical Acoustics Corp. (PAC) where he has been involved in acoustic emission and ultrasonic applications for the past 18 years. He has presented at universities, US

Government agencies such as DoD, FAA, NASA, FHWA and companies including Boeing, Lockheed, power generation and refineries. He has authored several papers on acoustic emission. PAC has been working with FHWA, universities and DOT for bridge testing since 1972. This presentation will cover advances in acoustic emission and ultrasonics.

All Welcome!

You do not have to be a member of the IEEE to attend.

Time: 5:00-6:00 PM, Thursday, December 4, 2008.

Place: New Jersey Institute of Technology (NJIT), Room 202, ECE Center (Intersection between Warren & Summit Streets), Newark, NJ. Directions are available at <http://www.njit.edu/University/Directions.html>.

Information: Professor Timothy Chang (973) 596-3519, chang "AT" njit.edu.

IEEE MTT Graduate Fellowship Deadline - December 12th, 2008

The purpose of the MTT graduate fellowship is to recognize and provide financial assistance to graduate students who show promise and interest in pursuing a graduate degree in microwave engineering.

Up to six \$6000 awards may be granted each year. The awards are presented at the International Microwave Symposium (IMS) in June. Limited travel support is available to enable the winners to attend the IMS.

For more information please visit: <http://www.mtt.org/>

All applications should be submitted by December 12th, 2008 to:

Prof. John Papapolymerou
Georgia Institute of Technology
85 5th Street - Suite 417
Atlanta, GA 30308
e-mail: papapol@ece.gatech.edu

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Deadline for receipt of material is the 1st of the month preceding the month of publication. All communications concerning editorial and business matters, including advertising, should be sent to the Business Manager via e-mail at k.saracinello@ieee.org or to *The IEEE Newsletter*, c/o Keith Saracinello, 25 Messenger Ln, Ringoes, NJ 08551, (302) 683-7162.

IEEE NJ SECTION HOME PAGE

<http://web.njit.edu/~ieeenj/>

IEEE NJ SECTION NEWSLETTER HOME PAGE

<http://web.njit.edu/~ieeenj/NEWSLETTER.html>

REPORT ADDRESS CHANGES TO:

IEEE Service Center, 445 Hoes Lane, P.O. Box 1331, Piscataway, NJ 08855-1331, (732) 981-0060. It is not necessary to inform the North Jersey Section when you change your mailing address. "The IEEE Newsletter" and other section mailings use a list provided by IEEE's national headquarters.

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The North Jersey Section Executive Committee usually meets the first Wednesday (except holidays and December) of each month at 7:00 PM. Meetings are open to all members. For information on meeting agenda contact Secretary Russell Pepe at (201) 960-6796, rcpepe "AT" ieee.org.

NJ Consultants' Network:

Annual Planning Meeting and Workshop

On Thursday, December 4, 2008 the IEEE Consultants' Network of Northern NJ (www.TechnologyOnTap.org) will conduct its annual Planning Meeting and Workshop.

About the Topic

The combined November/December meeting of the IEEE Consultants' Network is intended as a strategic planning event for Network members and for consultants who are considering membership in the Network.

The main purpose of the meeting will be to discuss ideas and expectations for the various Network functions in the upcoming year. Results of the annual election of officers will be announced at the time.

This working session is traditionally an open, informal forum to determine what the IEEE-CNNNJ is doing right or wrong. The floor will be open to suggestions for improvements, recommendations of new Network directions and activities and proposals of new feature topics for the general meetings.

This past year brought many changes in organization the Network and in the scope of its activities of. The discussion will evaluate the effect of these changes and will chart the course for 2009.

Certain major functions performed by the IEEE Consultants' Network are always open to reconsideration and to continuing input. These include:

- ☞ Focus of our group: publicity efforts and member networking.
- ☞ Group Marketing & Image Building - CNNNJ Website and alternate publicity methods.
- ☞ Monthly General Meetings - Suggested feature topics.
- ☞ Alternate general meeting formats.

The December meeting is open to all. Non-members, who are interested in our activities or who are considering joining the group are strongly encouraged to participate in the workshop to gain in-depth insight into our organization.

Pastries and refreshments will be available during the course of the evening.

As always during the year-end workshops, there will be no pre-meeting dinner for members.

About the Consultants' Network

Founded in 1992, the IEEE Consultants Network of Northern NJ encourages and promotes the use of independent technical consultants by business and industry.

CNNNJ Invites You to Join the Network For 2008

The IEEE Consultants' Network of

Northern NJ invites all engineers engaged in independent practice to join its ranks. We have recently revised our membership structure, hoping to make it even more worthwhile to participate.

For more details on member benefits and on sign-on requirements, please visit our website at www.TechnologyOnTap.org.

All Welcome!

Everyone welcome! No registration needed! Free admission.

Time: 7:30 PM, Thursday, December 4, 2008.

Place: Aeroflex / KDI-Integrated Products, 60 S. Jefferson Road, Whippany, NJ. Entrance at rear of building.

Information: For directions and up-to-date meeting status, call Robert Walker, 973-728-0344, or visit our website www.TechnologyOnTap.org. Map to KDI: <http://www.mcekdi-integrated.com/directions.htm>.

NJ SMC Society:

Reconciling Protocol Mismatches to Facilitate Web Service Composition

On Monday, December 8, 2008, the NJ Systems, Man & Cybernetics (SMC) Chapter will be hosting a seminar at NJIT on the topic noted above. Mr. Xitong Li, a visiting PhD student in the Information Technology Group at MIT Sloan School of Management, will be the presenter.

About the Talk

With the increasing popularity of Service Oriented Architecture (SOA), service composition is gaining momentum as the potential silver bullet for application integration. However, services are not always exactly compatible. Therefore, these services cannot be directly composed with the mismatches (i.e., incompatibilities) among them. Service mediation, roughly classified into signature and protocol ones, thus becomes one key working area in SOA. As a challenging problem, protocol mediation, which aims at reconciling mismatches of message exchanging sequences, is still open and existing approaches can only provide partial solutions. To this end, a systematic approach based on mediator patterns is proposed to generate executable mediators and glue partially compatible services together. The corresponding BPEL templates of these patterns are developed to produce executable mediation codes where BPEL stands for Business Process Execution Language

for Web Services. The reconciliation process and its main steps are introduced. Moreover, a prototype system, namely Service Mediation Toolkit (SMT), is implemented as a proof-of-concept to validate the feasibility and effectiveness of the approach.

About the Speaker

Xitong Li is a PhD candidate at the Institute of System Integration, Department of Automation, Tsinghua University, Beijing, China. Currently, he is studying as a visiting PhD student in the Information Technology Group at MIT Sloan School of Management. He received his BS degree from Department of Automation at Tsinghua University in 2004. His research interests include Service-oriented Architecture, Semantic Web Services, Enterprise Application Integration, and Workflow Modeling and Analysis. He has published several journal and conference papers in his research areas.

All Welcome!

You need not be a member of IEEE to attend, and there is no charge for admission.

Time: 7:00 PM, Monday, December 8, 2008. Light refreshments will be offered at 6:45 PM.

Place: New Jersey Institute of Technology (NJIT), Room 202, ECE Center (Intersection between Warren & Summit Streets), Newark, NJ. Directions are available at <http://www.njit.edu/University/Directions.html>.

Information/RSVP: Dr. Mike Liechenstein (973-471-0721) or E-Mails: (itsmikesju "AT" aol.com or zhou "AT" njit.edu). Please RSVP and check the electronic newsletter for any changes.

IEEE North Jersey Section Activities December 2008

Dec. 4 – “Annual Planning Meeting and Workshop” by Terry Tamutus, NJ Consultants’ Network, 5:00-6:00 PM, Aeroflex / KDI-Integrated Products, 60 S. Jefferson Road, Whippany, NJ. Robert Walker, 973-728-0344, or visit our website www.TechnologyOnTap.org.

Dec. 4 – “Acoustic and Ultrasonic Sensing Technologies as Applied to Structural/ Materials Testing and Process Control Monitor” by Terry Tamutus, NJ Control Systems, 5:00-6:00 PM, New Jersey Institute of Technology (NJIT), Room 202, ECE Center (Intersection between Warren & Summit Streets), Newark, NJ. Professor Timothy Chang (973) 596-3519, chang "AT" njit.edu.

Dec. 8 – “Reconciling Protocol Mismatches to Facilitate Web Service Composition” by Xitong Li, NJ SMC Society, 7:00 PM, New Jersey Institute of Technology (NJIT), Room 202, ECE Center (Intersection between Warren & Summit Streets), Newark, NJ. Dr. Mike Liechenstein (973-471-0721) or E-Mails: (itsmikesju "AT" aol.com or zhou "AT" njit.edu).

Dec. 10 – “Engineers Meet: For a Holiday Social”, NJ PACE, GOLD, & WIE, 6:30 PM to 9:00 PM, Clifton Memorial Library, 292 Piaget Ave, Clifton, NJ. Paul Ward, (973) 790-1625, PWARD1130 "AT" aol.com, Richard F. Tax, (201) 664-6954, rtax "AT" verizon.net.

Dec. 11 – “Timing Covert Communications: A Method for Keyless Security” by Dr. Shamik Sengupta, NJ Communications Society, 6:00 PM, New Jersey Institute of Technology (NJIT), Room 202, ECE Center (Intersection between Warren & Summit Streets), Newark, NJ. Directions are available at <http://www.njit.edu/University/Directions.html>. Dr. Nirwan Ansari (973) 596-3670 (nirwan.ansari "AT" njit.edu) or Yanchao Zhang (973) 642-7817.

Dec. 12 – “Adjustable Frequency Drives Seminar” by Dan Kupersmith, NJ PES/IAS, 9:00AM to 2:00PM, PSE&G, 80 Park Plaza, Room 101, Newark, NJ. Ronald W. Quade, PE, (732) 205-2614 or rwquade "AT" ieee.org.

Upcoming Meetings

Jan. 7 – “NJ Section Meeting”, 6:30 PM, “Executive Committee Meeting” - 7:00 PM, ITT, 77 River Rd, Clifton, NJ. Russell Pepe at [rcepe "AT" ieee.org](mailto:rcepe@ieee.org).

Members and Non-Members Welcome PLEASE POST

NJ Section PACE, GOLD, & WIE:

Engineers Meet:

For a Holiday Social

On Wednesday, December 10, 2008 the North Jersey Section Professional Activities Committee, Graduates of the Last Decade & Women In Engineering will meet for an Informal Social, with Pizza, soda & refreshments. This is the lighter side of the profession. Come on and bring your friends.

About the Meeting

This meeting is to bring members of the Section together for an evening of conversation and hospitality.

These meeting's offer opportunities for lively discussions. Historically, once members get started they just don't want to leave. Our meetings are entertaining and thought provoking.

All are invited. We encourage North Jersey Section Ex-Com officers to attend. When they do, our Section membership can meet with them on a first name basis.

Bring your associates, friends and spouses.

All Welcome!

Members and students from all professional societies and engineering disciplines are welcome. We now have attendees from IEEE, ASME, NSPE, ASCE and AEA. For information about these groups see:

www.aea.org
www.ieeeusa.org/policy/care/
www.ieeeusa.org
www.programmersguild.org
<http://web.njit.edu/~ieeenj/>
www.asme.org/sections/northjersey

CARE is the Congressional Advocacy Recruitment Effort. CARE is a voluntary network of IEEE members who are interested in public policy. To help go to www.ieeeusa.org/policy/care/.

Time: 6:30 PM to 9:00 PM, Wednesday, December 10, 2008. Refreshments will be served.

Place: Clifton Memorial Library, 292 Piaget Ave, Clifton, NJ, (973) 772-5500.

Information: Paul Ward, (973) 790-1625, PWARD1130 "AT" aol.com, Richard F. Tax, (201) 664-6954, rtax "AT" verizon.net.

NJ Communications Society:

Timing Covert

Communications: A Method for Keyless Security

On Thursday, December 11, 2008, the IEEE Communications Society will host a presentation titled "Timing Covert Communications: A Method for Keyless Security." The speaker will be Dr. Shamik Sengupta.

About the Talk

Covert channels primarily refer to the concept of stealth channel and hidden information. For example, timing covert channels are secret operations existing in a normal communication channel where the output alphabet is constructed from different inter-arrival timing of the packets. Thus timing covert channels does not use header or payload embedded information to encode covert messages. Due to its special capability of key-less security and camouflaging, covert channels are gaining popularity recently in wireless networking to secure information. However, currently, there is little understanding on how such a timing covert networking with multiple timing covert communications simultaneously would operate so as to make the system secure from defense and security perspectives amidst foreign adversaries in dynamic spectrum access systems.

In this research, we present a game-theoretic framework to model an attack-defense scenario in tactical network dynamic spectrum access system with multiple timing covert channels based on cognitive radio nodes. An attacker (eavesdropper), which might possibly be another cognitive radio node from a competitor network or a competitor agent (e.g., terrorist organization), wants to sense the real time secret messaging by sensing/snooping into the spectrum bands and upon successful detection, tries to destroy (jam) the ongoing timing covert operations. To defend the attack successfully, DSA system, on the other hand, can potentially enable multiple auxiliary cognitive radio node communications in the spectrum bands dynamically that help the timing covert communications in each of the spectrum bands to camouflage. We analyze the scenario with two-tier game model: i) sensing game (with passive eavesdropper) and ii) jamming game (with active destroyer). With regard to the aforementioned secrecy model, we propose a dynamic minimax camouflaging strategy for DSA system and sensing and jamming strategies for attacker to capture the conflict of interest

between attacker and the DSA system, both of whom try to maximize their respective net utilities. We show that even in such a greedy and non-cooperative behavioral game model, it is in the best interest of the attacker and DSA system to adhere to the proposed strategies to achieve equilibrium point. Through numerical analysis and simulation results, we show that how game strategies can be used as an effective tool for developing secure timing covert networking based on DSA

About the Speaker

Shamik Sengupta (Shamik.Sengupta@stevens.edu) is presently appointed as a Post-Doctoral researcher in Department of Electrical and Computer Engineering at Stevens Institute of Technology, NJ, with Prof. R. Chandramouli. Prior to that, Shamik Sengupta received his PhD from the School of Electrical Engineering and Computer Science at the University of Central Florida in 2007 under the guidance of Prof. Mainak Chatterjee. His research interests include keyless security in wireless networking, dynamic spectrum access, cognitive radio, network economics, auction and game theories, and WRAN technologies. Currently, Shamik Sengupta serves on the organizing and technical program committee of several IEEE international conferences.

All Welcome!

You do not have to be a member of the IEEE to attend.

Time: 6:00 PM, Thursday, December 11, 2008. Refreshments will be available at 5:45 PM.

Place: New Jersey Institute of Technology (NJIT), Room 202, ECE Center (Intersection between Warren & Summit Streets), Newark, NJ. Directions are available at <http://www.njit.edu/University/Directions.html>.

Information: Dr. Nirwan Ansari (973) 596-3670 (nirwan.ansari "AT" njit.edu) or Yanchao Zhang (973) 642-7817. Also check <http://web.njit.edu/~ieeenj/comm.html> for the latest updates.

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|---|---------------------------------------|---------------------------------|-------------------------------------|
| <i>Conference Chairs:</i> Kyriakos Manousakis (Telcordia Applied Research); David Daut (Rutgers University) | | | |
| <i>Technical Program Chairs:</i> Nicholas Madamopoulos (City College of CUNY); Ajay Rajkumar (Alcatel-Lucent) | | | |
| <i>Publication Chair:</i> | Aileen Cheng (Telcordia) | <i>Tutorial Chair:</i> | Edwin Hou (NJIT) |
| <i>Publicity Chair:</i> | Wei Jiang (Rutgers University) | <i>Finance Chair:</i> | Deniel Deng (NanoNuvo Corp.) |
| <i>Registration Chair:</i> | Vishal Singh (NEC-Labs) | <i>Local Arrangement Chair:</i> | Kale Franz (Princeton Univ.) |
| <i>Military Panel Chair:</i> | Matthew Zieniewicz (CERDEC) | <i>Exhibits Chair:</i> | Wei Wei (NEC-Labs) |
| <i>Commercial Panel Chair:</i> | Elias Kpodzo (BAE Systems) | <i>Web master:</i> | Komlan Egho (NJIT) |
| <i>Student Poster Chair:</i> | Wieslaw Marszalek (DEVRY) | | |

Since 1978 the IEEE Sarnoff Symposium has been bringing together a tremendous and rich diversity of telecom experts from industry, universities, and government. The popularity of the Sarnoff Symposium, again being held in the historic Nassau Inn located in the heart of downtown Princeton, continues to grow as the premier forum for researchers, engineers, and business executives in the North East drawing an attendance from all over the world. Besides the technical paper presentations, the Symposium will include *tutorials, student paper poster presentations, executive panels, and exhibition.*

Prospective authors are encouraged to submit a full paper for review. Only original papers that have not been published or submitted for publication elsewhere will be considered. The submission process is carried through the *EDAS conference management system* (<http://edas.info/>).

The manuscripts must follow the IEEE two-column format with single-spaced, 10-point font in the text. The maximum paper length is of five (5) pages. A sixth page may be accepted after an additional fee. Submission of a regular paper implies that at least one of the authors will have a full registration to the Conference and present the paper upon the acceptance of the submission.

All accepted papers (after review by experts in the field) will be presented in oral sessions, included in the *2009 IEEE Sarnoff Symposium proceedings* and published through **IEEEExplore**. Student papers should be submitted to the Student Papers Chair (wmarszalek@devry.edu). Prospective tutorial presenters should contact the Tutorials Chair (houl@njit.edu). Detailed procedure is available at: www.sarnoffsymposium.org.

The Symposium is soliciting state-of-the-art research papers and tutorial proposals in the following areas of interest.

Communication Systems

- Broadband Networks (LAN/WAN)
- Network Security
- VoIP & QoS (IPv6/Telephony)

Communications Theory

- Network Information Theory
- Signal Processing for Communications
- Modulations and Coding Techniques

Military Communications

- Disruption Tolerant Networks
- Trust, Security, and Privacy
- Power Management Issues

Optical Communications & Networking

- WDM Systems and Devices
- Broadband Access Communication Technologies
- Fiber-Wireless (FiWi)
- Radio over Fiber (RoF)

Multimedia Applications & Networking

- Multimedia Communications

RF and Microwave Techniques

- Power Amplifiers
- Microwave Devices
- Antenna Systems
- Transceiver Design
- Satellite Communication Systems

Wireless Communications

- WLAN, WiMAX, 3G and 4G Systems
- Multiple Antenna Systems (Uplink and Downlink MIMO/Beamforming)
- Radio Resource Management and
- Interference Management
- Femto Network Deployment
- Self Configuring Networks
- Self Optimizing Networks
- Sensor, Mesh & Ad Hoc Networks
- Performance Analysis of Wireless Systems
- Ultra Wideband (UWB) Communications
- User and Network Security in Next Generation Networks

IMPORTANT DATES

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|---------------------------------------|---------------|
| Papers Due: | Dec. 9, 2008 |
| Tutorial Proposals Due: | Dec. 9, 2008 |
| Notification of Tutorials Acceptance: | Jan. 7, 2009 |
| Student Papers Due: | Jan. 19, 2009 |
| Notification of Papers Acceptance: | Feb. 6, 2009 |
| Final Version Due: | Mar. 2, 2009 |

CONFERENCE SCHEDULE

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|-----------------------|-----------------------|
| Tutorials: | Mar. 30, 2009 |
| Paper Sessions: | Mar. 31- Apr. 1, 2009 |
| Exhibits: | Mar. 31, 2009 |
| Poster Presentations: | Apr. 1, 2009 |

Thomas A. Edison recognized in IEEE Milestone Event

The North Jersey Section sponsored an IEEE Milestone on the 77th anniversary to Edison's death in 1931 on Saturday, October 18th, 2008.



U.S. DEPARTMENT OF THE INTERIOR, NATIONAL PARK SERVICE, EDISON NATIONAL HISTORIC SITE

The event commemorating the West Orange, NJ, laboratories and factories was attended by more than 60 members and dignitaries of the West Orange Township, NJ, municipality and the IEEE. The event began with a tour of Edison's Glenmont estate courtesy of the National Park Service.



In 1886 Thomas Edison bought Glenmont as a gift for his bride, Mina Miller. After moving in, Edison said that the 23-room Victorian mansion was "a great deal too nice for me, but it isn't half nice enough for my little wife."



Mina was only 20 at the time and assumed responsibility for Edison's three children and running the estate of 13½ acres with a total of six full time staff. The Edisons and their children often used the grounds for sports and games, to entertain visitors, and to relax on the estate that Thomas Edison called home for 44 years. In the back are the graves of Thomas and Mina. The dedication program included both a tour of the estate with historic

home, garage, green house as well as the dedication. After the tour we proceeded to the West Orange Township, NJ, Municipal Building for a welcome by Kirit Dixit, IEEE North Jersey Chairman followed by opening remarks from the Honorable John F. McKeon, State Assemblyman and Mayor of West Orange Township, NJ. Mayor McKeon spoke on the



dedication of the West Orange Laboratories to recognize this important citizen of the township as being of cultural, inventive, scientific, and engineering significance along with establishing a commercial factory enterprise which provided hundreds of jobs for the citizens of West Orange and still continues to attract numerous tourists to the area. Having a personality of such magnitude within the borders of your town gives many occasions for educational activities, scientific adventure, civic gatherings, and other events. Mayor McKeon was instrumental in allowing the placement of the milestone on the lawn of the Township Municipal Building when it was determined that it could not be placed on the National Park Site. The next speaker on



the program was Carl Sulzberger, IEEE History Committee Milestone Coordinator who spoke eloquently and at length on the two year process of obtaining milestone status for the work of Thomas Alva Edison in West Orange, NJ. IEEE Milestones in Electrical Engineering and

Computing is a program that honors significant achievements in electrical, electronic, and computer engineering and the associated sciences. Milestones recognize the technological innovation and excellence for the benefit of humanity found in unique products, services, seminal papers and patents. The program is administered for the IEEE History Committee by the IEEE History Center. Each milestone recognizes a significant achievement in an area of technology represented in IEEE and having at least regional impact. To date, over 80 Milestones have been approved and dedicated around the world. This milestone was number 82. The Keynote address was given

by Dr. Paul Israel, Director, Edison Paper's Project, Rutgers University and author of the book Edison: A Life of Invention. Edison, Israel argues, was not only an educated tinkerer and genius, but the creator of the prototype for the modern corporate research lab. He stressed his two





major inventions the phonograph and light bulb that catapulted him to financial wealth in addition he knew how to find talent, how to organize it to get the most out of people, how to beat competition by both speed and the creation of entire new systems of technology. Edison knew how to manipulate the media and build on his fame,



creating a myth to which he had to live up. That being said, he had a pitch-perfect intuitive sense not only of potential new markets, but of how to create technical solutions to exploit them. He learned from his failures and strove to apply his less-successful inventions elsewhere, often to great effect. Taken together, this was a true business genius and Israel explained it all succinctly, including the exposure of Edison's many weaknesses in management, his family, and his financial affairs. Some of his many flops nearly bankrupted him. His presentation was a masterpiece of scholarship, a

plethora of different disciplines articulated in prose and good storytelling. Region 1 Director elect, Charles Rubenstein, had the honor to present Mr. Lewis Terman, IEEE President and CEO who indicate that the IEEE is not just concerned with past excellence; but more geared to the future: 125 years of Engineering the Future.



plethora of different disciplines articulated in prose and good storytelling. Region 1 Director elect, Charles Rubenstein, had the honor to present Mr. Lewis Terman, IEEE President and CEO who indicate that the IEEE is not just concerned with past excellence; but more geared to the future: 125 years of Engineering the Future.



Terman, an IEEE Fellow, has been active as an IEEE volunteer and member for almost 50 years. A member of the IEEE Board of Directors, Terman has been involved with the IEEE Awards Board for over three decades, and served as chair of the

presentation and publicity committee in 2005. He also has served as special issue guest editor of four IEEE publications. Retiring from IBM's Research Division in 2006 after 45 years, Terman currently holds the title of IBM Research Emeritus. He stressed the global aspect of the IEEE and its broad spectrum of involvement, not only in Engineering and Electronics; but in all areas of related fields including computers, design, concept, trade, production, etc. He stressed that in these financially stressed times the future lies in new engineering and electronic concepts that can bring a world of new inventions to us in a way similar to what Edison did. Finally, to complete an inspiring afternoon the IEEE

milestone plaque was unveiled the following citation was read:

"Thomas A. Edison West Orange Laboratories and Factories, 1887



From the left: Carl Sulzberger, Warner Johnston, Lewis Terman, Kirit Dixit, Charles Rubenstein, & Robert Pellegrino

Thomas Alva Edison, a West Orange resident from 1886 until his death in 1931, established his final and most comprehensive laboratory and factory complex about one-half mile (0.8 km) north of here in 1887. Edison's visionary combination in one organization of basic and applied research, development, and manufacturing became the prototype for industrial enterprises worldwide. Work here resulted in more than half of Edison's 1,093 patents."



On the right: Howard Leach

NJ Power Engineering Society/Industry Applications Society

Adjustable Frequency Drives Seminar

The PES and IAS Chapters will sponsor a technical seminar on the topic of variable frequency drives. The session will be held on Friday, December 12, 2008, at Public Service Electric & Gas Corporate Headquarters in Newark, NJ.

Topics

Adjustable Frequency Drives:

- ✓ Why use AFD's
- ✓ Motor Theory
- ✓ Drive Theory
- ✓ Energy Savings
- ✓ AFD Applications
- ✓ What are harmonics
- ✓ IEEE-519 Recommendations
- ✓ AC Drives and Harmonics
- ✓ Why Harmonics Matter
- ✓ How to Mitigate Harmonics

About the Instructor

The instructor will be Dan Kupersmith, Senior Application Engineer with Eaton Corporation in Watertown, Wisconsin. Dan is degreed in Electrical Engineering from the University of Wisconsin in Milwaukee. He has 30 years of experience in the drives industry, including drives and system design, systems engineering management and application engineering. Prior to Eaton, Dan worked for Allen Bradley, Louis Allis (later became Magnetek). His last 9 years have included a major focus on practical harmonic mitigation solutions.

The registration fee for this seminar prior to November 26th will be \$150 for non-IEEE members, \$100 for IEEE Members, \$75 for GOLD Graduates (last 1-10 years) and \$25 for students with valid ID. The fee will be waived for IEEE Life Member Grades with verification at the seminar. Registrations after November 26th must include an additional late fee of \$25. The seminar fee includes lunch, refreshments and handouts. Non-members joining IEEE within 30 days of the seminar will be rebated 50% of the IEEE registration charge.

If desired, IEEE Continuing Education Units will be offered for this course - a small fee of \$25 will be required for processing. A total of 0.4 CEUs will be offered. Please indicate if desired below.

Time: 9:00 AM to 2:00 PM (lunch is included), Friday, December 12, 2008.
Place: PSE&G, 80 Park Plaza, Room 101, Newark, NJ 07101
Directions: <http://www.pseg.com/about/directions.jsp> or Amtrak, NJ Transit or PATH buses and trains
Information: Ronald W. Quade, PE, (732) 205-2614 or rwquade@ieee.org

Registration: Variable Frequency Drive Seminar 12/12/2008

Register via US mail to: Ronald W. Quade, PE
Eaton Electrical
379 Thornall St, 8th Floor
Edison, NJ 08837

Name _____

Address _____

Phone _____ Email _____

IEEE # _____ Student @ _____ Non IEEE _____ Life Member _____

Continuing Education Units: _____ Yes \$25 _____ No

If CEUs are chosen, please include a \$25 processing fee

Payment Enclosed \$ _____ Add \$25 late registration after November 26, 2008

Make checks payable to North Jersey Section IEEE (Credit Cards cannot be processed at this time).