



THE

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Story on Page 6

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The IEEE MONITOR is the official news publication of the New York Section of the IEEE. Reaching over 5,500 Electrical Engineers and Computer Engineers across New York City (Brooklyn, Bronx, Manhattan, Queens and Staten Island), Rockland and Westchester Counties. The publication reports on events and activities of interest to the general membership and carries the monthly IEEE society chapter calendar of events as a service to its readers.

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The NY Monitor needs reporters and contributors. You will get a chance to attend and report on meetings of IEEE Societies and interview masters in your field of study. Submit to nymonitor@ieee.org

Events submission checklist

- Contact person name, e-mail address & phone number
- Name of society or group(s) that sponsor the event
- Name of event
- Date of event (indicate tentative or firm)
- Time of event
- Location (FULL address)
- Location directions (subway, etc.)
- Presenter details (if applicable)
- Event abstract (if applicable)
- Registration/RSVP requirement and instructions
- Cost to attendees (if any)
- CEU/PDH credits & cost information (if applicable)
- Refreshments
- Society/group website location for further information
- E-mail information to: nymonitor@ieee.org

Submission deadlines

<u>Issue</u>	<u>Deadline</u>
January (events only)	December 1, 2008
February	December 10, 2008
March	January 14, 2009

Note: Announcements that are submitted too late for the print version, and last minute changes to events (please get them to us as soon as possible), will be included in the e-mail notice that is posted at the start of the month of publication.

On the front cover: Thomas Alva Edison in his laboratory. Two of Edison's inventions, the phonograph and the light bulb. Photographs are from the U.S. Department of the Interior, National Park Service, Edison National History Site.

Notes from the Editor

Here we are, at the end of another year. By the time you read this, the election of the NY Section’s Executive Committee has taken place. In 2009 the IEEE celebrates its 125th anniversary, and as you can read in the announcement by Chair David Weiss on page 5, changes are in the wind for the NY Monitor.

The December issue has several interesting articles. I want to extend a special thank-you to Michael Miller, who has been such a great and consistent contributor this year. This month his contribution is a report on the IEEE Milestone Event in NJ, which recognized Thomas A. Edison. I also thank David Weiss, for his always thought provoking Chair Columns, and for his support of the NY Monitor during his time at the helm. In addition to his Chair Column, you can also read his report on a tour of the Indian Point Power plant.

Again I thank my colleagues, Camille Alma, Jean Redmond, and Amitava Dutta-Roy for their help to get this issue out on time. I hope you enjoy this issue and I look forward to your comments and suggestions. Thank you for reading the NY Monitor.

Marlen Waaijer (marlen.k.waaijer@ieee.org)

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Letter to the Editor

New Yorker Hotel IEEE Milestone event

I was most impressed by the Keynote Address given by Joseph Kinney and the tour that followed. I learned a great deal about Nikola Tesla. He was born in Smiljan, Serbia, an ethnic Serb and a subject of the Austrian Empire. He later became an American citizen—another immigrant made good. Tesla is best known for many revolutionary contributions in the field of electricity and magnetism in the late 19th and early 20th centuries. Tesla’s patents and theoretical work formed the basis of modern alternating current electric power (AC) systems, including the polyphase power distribution systems and the AC motor, with which he helped usher in the Second Industrial Revolution. That he lived and died in the New Yorker Hotel was most interesting, including the FBI interest in this very esoteric personality. He believed in extraterrestrials and UFO sightings. He is credited by the US Supreme court as the inventor of the radio. Visiting his hotel room and the major DC generation facility deep in the bowels of NYC was fascinating as was being able to pull and initialize a DC circuit on an existing 60 foot long switchboard that once furnished power sufficient for a city of 35,000. ■

Michael Miller

CALL FOR ABSTRACTS
FIFTH INTERNATIONAL CONFERENCE ON ETHICAL ISSUES IN
BIOMEDICAL ENGINEERING




APRIL 3 – 5, 2009

www.downstate.edu/grad/bioethics2009.html
 www.poly.edu/graduate/bioethics2009/

CONFERENCE SITE - Polytechnic Institute of NYU
FIVE METROTECH CENTER, BROOKLYN, NY 11201

ERRATA

In the November 2008 issue. The article and the photographs erroneously credited to Joseph Cunningham, were actually submitted by Robert W. Lobenstein. I have corrected this error in the online edition.

In the October issue on page 8 in the section about Jignasa R. Ray we announced that she was involved for three years in the Future City Competition. Jignasa let us know that this year will actually be the second year that she participates in Future City and Robotics. In addition Jignasa told us that although WIE supported the Lower Hudson Valley Expo, she was not an attendee as we reported. ■



Chair Column

David Weiss (daweiss@ieee.org)

Well folks, my party is coming to an end. This is my last Chair Column. I salute Warner Johnston for whom I have kept the seat warm, as Stan Karoly did for me.

In the past year I've tried to instill a sense of excitement about being an engineer, a sense that we are creative people at the nexus of the world's challenges, and that careers in engineering are rewarding professionally and financially. We can make a difference.

The Executive Committee continued to support our award winning chapters, especially those on the cutting edge of technology and membership development. We are gratified that a new joint Electronic Devices Society (EDS) and Solid-State Circuits Society (SSCS) chapter has been established and that local chapters for the Professional Communication Society (PCS) and the Geoscience & Remote Sensing Society (GRSS) are in the discussion stages. It has been a blast working with people at Headquarters and the Region on these efforts. The Sections Congress, in particular, was a great opportunity to try to develop and hone ideas and to implant seeds for the future. We enjoyed celebrating the New Yorker Hotel's IEEE Milestone, especially because it highlighted the inventiveness of our people. More is to come next year as we celebrate the 125th Anniversary of the IEEE.

What makes engineering special? Engineers are oriented to solving problems. We may do it in steps, so it doesn't always come as a thunderclap like a scientific discovery, but we make progress. Here are some examples of fields where IEEE engineers are at work:

Energy: we need to develop more, conserve more, and distribute better. Increasing the portion that comes from the US will dramatically improve our nation's security and economy. Energy is at the heart of the world's concerns regarding global warming and environmental quality. I'm still thrilled by the tour of the Indian Point Power Plant organized by our Tappan Zee Subsection.

Health: the cost of maintaining our health is rising,

especially as our population ages. Yet engineers are developing new tools and procedures for diagnosis and treatments that avoid or reduce these costs and speed-up recovery.

Communications: on any walk down the street or sitting in a restaurant you'll see people on their cell phones. Emily Post is hard at work on the next etiquette book to deal with that. Businesses are investing in wireless applications to support their workers in the field—we are all connected.

Transportation: this consumes 69% of the petroleum used in the US and is the leading energy consumption sector in our economy. Industry is second with 21%. Developing more efficient ways of using energy for transportation is therefore a critical issue in the years ahead.

Defense: living in the post 9/11 age we are concerned with identifying threats to our security and neutralizing them without unduly affecting the rights of citizens. Engineers are invested in developing and applying technology and systems across a broad range of activities to accomplish this.

And what are we doing about membership development? The section supported our Student Activities Chair, our GOLD Chair, and our Membership Development Chair. These Chairs along with PACE and WIE have sponsored our phenomenally successful Signals Mixers.

- They support S-PAC activities on campus, the Future Cities competition, and several expositions.
- In meetings with students and faculty over the years, we have learned of their great interest in getting internships. We are working on programs in this area as well.
- Our Conference Coordinator works to establish receptions at conferences where GOLD and Student members can network with established professionals. NY Section Members received free admission to the Brainstorm-NY Business Process Management conference.

So I pass the torch as we continue our quest for Big Audacious Goals. Get in line to enjoy the trip! ■

David Weiss (daweiss@ieee.org)

For updates on the calendar of events

view the NY Monitor online



— www.ieee.org/nymonitor/ —

Online community at

www.ieee.comunities.org/ieee.ny

CALENDAR OF EVENTS

(Mark your calendar)

Friday, December 5—Saturday, December 13, 2008 *

CISSE—2008 Conference on Computer, Information and Systems Sciences, and Engineering
 CISSE 2008 is the fourth conference of the CISSE series of e-conferences.
<http://www.cisse2008online.org>

Wednesday December 10 Noon to 2:30

Section Executive Committee (ExCom) Meeting
 Location: Con Edison, 4 Irving Place New York, NY 10003
 RSVP required: Paul Sartori sartorip@coned.com. No walk-ins allowed for security reasons.

Wednesday, December 10, 2008 Seating 7:15 PM, Lecture at 7:30 PM

The Engineering in Medicine and Biology Society (EMB) (NY Chapter) presents a lecture “FEEDBACK in ELECTRONIC and BIO-LOGICAL SYSTEMS” with Prof. J.H. Levitt.

Location: Columbia University campus, enter at Broadway & West 116th Street (116th on #1 Subway). Location will be sent after you pre-register.

RSVP required: Prof. Joel H. Levitt by e-mail: jlevitt@pratt.edu (or by 24 hr voice-mail 212-479-7805 but be sure to leave a callback number). There is no admission charge and you need not be an IEEE member but pre-registration ends midnight December 9 or when capacity is reached. So pre-register now!

Thursday, December 11, 2008 7:00 pm

Tappan Zee Subsection presents **Dr. Lurng-Kuo Liu**, Research Staff Member, IBM with a lecture on Multicore Computing: From Game Console to HPC Server

Location: IBM T.J. Watson Research Center, 19 Skyline Drive, Hawthorne, NY 10532

This lecture has been approved for 0.1 Continuing Education Units (CEU). For directions and detail information, please visit the event web page at IEEE Tappan Zee Subsection website, www.ewh.ieee.org/r1/new_york/tz

Saturday, December 13, 2008

GOLD event for the GOLD committee members of Region 1 Area B (NY, NJ, CT, LI etc.) We are planning on ice skating and a dinner planning meeting where we will share ideas and plan for 2009 for any co-sponsored events and establish specific goals for 2009 for our Section and Area. For information contact Jignasa Ray by e-mail jignasa.ray@ieee.org.

Monday, December 15, 2008 7:00 pm

The NY Chapter of the IEEE Computer Society presents Software Engineering: View From the Top – With Occasional High-Resolution Snapshots—A lecture by Phillip A. Laplante, Ph.D., P.E., Professor of Software Engineering at Pennsylvania State University.

Location: MTA/New York City Transit, 2 Broadway, New York 10004, 2nd Floor—D2.10 A&B. Nearest Subway: Bowling Green (4 & 5)

RSVP required: email Thalia.Lashley@nyct.com, phone: 646.252.3533, by Friday December 12 — no walk-ins for security reasons!

Thursday, December 18th, 2008 5:00 — 7:00 pm

PES and IAS IEEE NY & LI Chapter and Life Member Chapter: A presentation by Fred Coppersmith, Director of Research and Development for Con Edison on Fault Current Limiters: The Importance and Development Status of this New Piece of Electrical Equipment

Location: Con Edison, 4 Irving Place New York, NY 10003 (no walk-ins for security reasons)

RSVP required: email preferred, Arnold Wong wongar@coned.com or (212) 460-4189 (all are welcome)



AMOS E. JOEL JR.

IEEE Life Fellow Amos E. Joel Jr. passed away on October 25, 2008. Amos was chair of the NY Section from 1963-1964. He was 90 years old and was recently inducted into the National Inventors Hall of Fame. He held over 70 patents

and his patent on cellular switching allows for cell-phone usage today. He was a gentleman.

Memorial contributions may be made to “Invent Now Kids Inc.” through the National Inventors Hall of Fame in Akron, Ohio (www.invent.org); or the Bird Aviation Museum and Invention Center in Sandpoint, Idaho.

(birdaviationmuseum.com). See obituary in NY Times at www.nytimes.com/2008/10/28/technology/28joel.html

To Members of the New York Section:

The Executive Committee of the NY Section discussed recommendations of our Long Range Planning Committee regarding upgrades to the NY Monitor, the Section’s newsletter. The committee decided that re-formatting the NY Monitor to an all-electronic format will offer significant advantages to readers. These include: more flexible layouts, color, and hyperlinks. It also gives us additional time to work on each issue. We have scheduled the conversion to take place early next year. Exact timing will be announced shortly. Those wishing a hardcopy will be able to download the newsletter in pdf format.

Sincerely,
 David M. Weiss
 NY Section Chair, daweiss@ieee.org

THOMAS A. EDISON RECOGNIZED IN IEEE MILESTONE EVENT

Report by Michael Miller

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

The event that commemorated the West Orange, NJ, laboratories and factories was attended by more than 60 IEEE members and dignitaries of the West Orange Township. The dedication program included a tour by the National Park Service of Edison’s Glenmont estate—with historic home, garage, green house—as well as the dedication.

Thomas Edison bought Glenmont as a gift for his bride, Mina Miller, in 1886. 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 twenty years old at the time, and she assumed responsibility for Edison’s three children and managed the estate of 13½ acres with a full time staff of six. The Edisons and their children used the grounds for sports and games, to entertain visitors, and to relax. Thomas Edison called it home for 44 years. Both Thomas and Mina were buried on the grounds.

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 by 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 at-

tract numerous tourists to the area. Having a person 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 about 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 recognizes 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 Director Dr. Paul Israel, director of the Edison Paper’s Project at Rutgers University and author of the book Edison: A Life of Invention. Edison, Israel argues, was not only an educated tinkerer and genius, but also the creator of the prototype for the modern corporate research lab. He stressed two of Edison’s 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, and 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

tions to exploit these markets. He learned from his failures and strove to apply his less-successful inventions elsewhere, often to great effect. Taken together, he was a true business genius and Israel explained it succinctly, includ-



Kirit Dixit, IEEE North Jersey Chairman



Mayor John F. McKeon



Carl Sulzberger

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 solu-

ing the exposure of Edison's many weaknesses in management, his family, and his financial affairs. Some of Edison's many flops nearly bankrupted him.



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



Paul Israel



Charles Rubenstein



Lewis Terman

Israel's 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 Lewis Terman, IEEE President and CEO who indicated 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 and the following citation was read: "**Thomas A. Edison West Orange Laboratories and Factories, 1887.** *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.*" ■



Unveiling of the Plaque. Foreground left: Howard Leach

Can YOU Change the World?

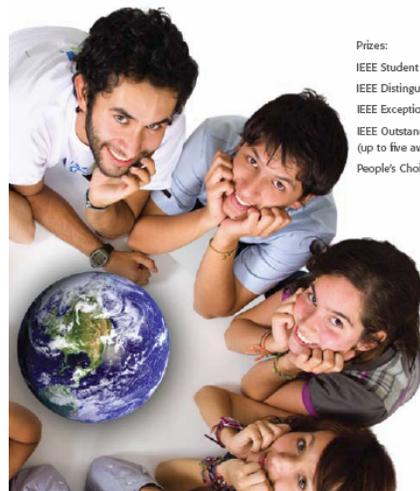
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Tell us how you have made a positive impact in the world and you could win US\$10,000 plus a free trip to the 2009 IEEE Honors Ceremony in Los Angeles, California, USA.

For complete details and eligibility requirements, visit iee125.org/ChangetheWorld

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IEEE Distinguished Student Humanitarian:	US\$5,000
IEEE Exceptional Student Humanitarian:	US\$2,500
IEEE Outstanding Student Humanitarian:	US\$1,000
(up to five awarded)	
People's Choice (online vote):	US\$500





THE ENGINEERING IN MEDICINE AND
BIOLOGY SOCIETY
(NY CHAPTER) PRESENTS A LECTURE

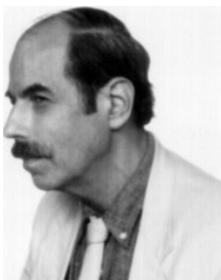


**“FEEDBACK IN ELECTRONIC AND BIOLOGICAL SYSTEMS”
WITH PROF. J.H. LEVITT**

WEDNESDAY DECEMBER 10, 2008

Seating 7:15 PM, Lecture at 7:30 PM

Professor Levitt will address the following questions: How can you build an audio amplifier with low distortion, wide frequency response, and high temperature stability if the components have poor specs? Since muscles are highly non-linear (doubling excitation doesn't double force) how can humans do precision hand work (fine art, surgery)? Why does a perfect reading for blood Calcium NOT confirm adequate dietary Calcium? Why should people with low blood sugar AVOID sugar? Why do people very deficient in Chromium often feel worse when they start supplementing Chromium?



Prof. Joel H. Levitt holds four degrees from Columbia University and has been a member of the faculty of Pratt Institute for over 25 years. He is the Chairman of our local EMBS chapter. He has taught Electrical Engineering, Physics, and Computer Programming (BASIC, FORTRAN, C, C++, JAVA) at Pratt. He is the author of "Small Signal Analysis- By Computer, By Inspection" Haywood Press 1983, which may have been the first electronics text to fully integrate a presentation of electronics fundamentals with an introduction to computer programming. He is also the director of the Anxiety & Hypoglycemia Relief Institute (www.tranquil.info).

Prof. Levitt has lectured at Rockefeller University and elsewhere for EMBS since 1990. In October 2007 he gave a 2-hour presentation at the convention of the NYSSPA (New York State Society of Physicians Assistants).

Location: Columbia University campus, enter at Broadway & West 116th Street (116th on #1 line). Location on campus will be sent after you pre-register.

RSVP required: Prof. Joel H. Levitt by e-mail: jlevitt@pratt.edu (or by 24 hr voice-mail 212-479-7805 but be sure to leave a callback number). There is no admission charge and you need not be an IEEE member but pre-registration ends midnight December 9 or when capacity is reached. So pre-register now!



**IEEE TAPPAN ZEE SUBSECTION,
MULTICORE COMPUTING: FROM GAME CONSOLE TO HPC SERVER
THURSDAY, DECEMBER 11, 2008, 7:00PM**

@ IBM T.J. Watson Research Center
19 Skyline Drive , Hawthorne, NY 10532

A PRESENTATION BY DR. LURNG-KUO LIU

Research Staff Member, IBM

Traditionally, increasing clock frequency is the main dimension for conventional processors to achieve higher performance gains. This technique has reached a point of diminishing returns. Multi-core processors, also known as Chip multiprocessors (CMPs), promise a dramatic increase in performance and become more prevalent in vendors' solutions. The trend of multi-core processors development also brings a shift of paradigm in applications development. The application development process needs to be changed in order to fully explore the potential of multi-core processors.

In this talk, Dr. Liu will discuss multi-core computing based on the Cell Broadband Engine™ (Cell/B.E.) processor. The Cell/B.E., which served as the core of Sony PS3, is a state-of-the-art multi-core processor. It incorporates a PowerPC core for executing general purpose codes along with eight simple yet powerful cores, called Synergistic Processor Elements, for high performance computing. The Cell/B.E. is also available in high-end blade server form factor for high performance computing workloads in a variety of industries. An overview of the Cell/B.E processor including the development history of the Cell/B.E., the hardware architecture, and its programming models for applications development will be presented during this lecture.



Lurng-Kuo Liu is a Solutions Architect and RSM at IBM T.J. Watson Research Center. He is currently leading several emerging solutions development projects as part of IBM's strategy directions for Cell Broadband Engine (Cell/B.E.) processor. Prior to his current position, he was a Program Manager for the Blue Gene (BG/L) System at IBM's Explorer Server Systems department, where he has lead to the success of BG/L and ranked as No. 1 in the top 500 supercomputer list. He has worked on a broad range of projects such as video codec processors, media signal processor, broadband e-commerce, interactive TV, Set-Top Box, MP3 audio, video compression (MPEG-2, MPEG-4, H.263, etc.), immersion computer game systems, vision-enhanced human computer user interface (HCI) system, and high performance computing (HPC) system. His research interests

include digital signal processing, multimedia, computer vision, interactive games, broadband e-business, mobile computing, financial modeling, and HPC. Dr. Liu received a Ph.D. in Electrical Engineering at University of Maryland at College Park in 1993.

For directions and detailed information for either of these events, please visit the event web page at IEEE Tappan Zee Subsection website, www.ewh.ieee.org/r1/new_york/tz/



CEU for P.E This event has been approved for 0.1 Continuing Education Units (CEU) through the IEEE. The processing fee for recording the CEU is \$20 payable by check made out to IEEE NY Section at the time of the event. Signing up for CEU credits prior to the lecture is encouraged, but not required.

To sign up or for further information, contact Henry Bertoni at hbortoni@poly.edu. You will also receive a CEU Program Evaluation form to fill out during the event. Note that both application fee and evaluation form need to be completed and handed in at the end of the event. Otherwise, we can not process your CEU application.

PLANNING YOUR SECOND CAREER—RETIREMENT

By Leon L. Nock, PACE Vice Chair

Engineers!! Let us consider our “second career”. Let us consider what we will do after we retire. We all have our dreams - dreams that no doubt will be expensive to satisfy. We will have the time to pursue them - in fact, we will have lots of time. So therefore, we will need a lot of money to both satisfy our dreams and make every minute of our leisure time as rewarding as possible.

Many of us, however, are now consumed by our “first careers” – our current careers. We work hard and we work long hours to advance them. We endeavor to both feed our families and enjoy our limited amount of leisure time. As such, we don’t take the time to plan our retirements - what we want to do when we retire. We also don’t take the time to determine what it will take and plan how we will finance our dreams and our leisure time activities.

Years ago, the organizations we worked for considered this dilemma and as such, set up retirement plans for its employees. However, those were the days when employees spent most of their careers working for one or possibly two employers and as such it was possible for corporate plans to fund pensions to levels permitting carefree retirements. Today, engineers work for many organizations during their careers and therefore require portable pension arrangements or plans.

Our government has recognized this situation and as such enacted legislation to meet this requirement. Social Security mandatory pensions were legislated in the 1930’s to provide a subsistence level of retirement funding for all. However, subsistence isn’t enough to permit us to satisfy our dreams or make our leisure time rewarding. Our government, therefore, passed legislation to incent us to set up our own retirement nest eggs. Enter the Traditional IRA, the Roth IRA, the Keogh, the SEP, and of course the 401, 403, 457 and other such plans.

The remaining requirement for us now is to consider the level to which we need to fund our portable retirement plans. We need to consider when we will begin funding our retirement plans and for how long they will need to be funded. We then need to compute how much we will need to set aside each year to achieve our goals. We can’t know how long we will live, so we need to take a reasonable guess.

As engineers, we have all learned about the time value of money. We have learned that the compound interest can enable us accumulate vast sums if we start early and invest reasonable/adequate amounts. The earlier we start, the more time there will be for compounding. We therefore can’t permit short term considerations to keep us from starting early and we cannot let them keep us from setting aside adequate savings.

We therefore need to:

- Start early, while we are still in our 20’s or early 30’s,
- Set aside at least 10 percent of our earnings each year (we really won’t miss the money if we begin the process and/or add amounts at annual raise times),
- Not allow short term considerations to divert us from our savings goals, and
- Make amends, should we no longer be in our 20’s or early 30’s, by setting aside as much as possible, as soon as possible, so as to achieve a satisfactory goal.

Good Luck !!!! ■



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MICE GO ERGONOMIC AND GAIN BUILT-IN LASER POINTERS

Review by Amitava Dutta-Roy

Mouse and mice! Since the introduction of the mouse to manipulate computer commands, the device has gone through N incarnations brought on by big companies such as Microsoft and Logitech. I understand that diamond-studded mice that cost as much as \$5000 are now being sold to the wealthy. All mice—art pieces or the plain vanilla variety—have their own idiosyncrasies. Some work better, some are easier to hold, and some easier to clean so that the mouse pad can produce adequate traction. However, not many manufacturers have done enough for the users' convenience. I recently came across a wireless mouse from Wow-Pen that is small and does not at all resemble the appearance of the legacy mouse. The manufacturer claims that it reduces the effects of carpal tunnel syndrome. Three versions of the mouse have been launched: Joy, Eco and Traveler. I have tried the wireless Traveler version. Wired versions of Joy and Eco models are also available. The Joy won the 2008 Red-dot design award and was nominated for the RetailVision Award by Gartner event in two consecutive years from 2007 to 2008. The mouse is compact and easily held in the hand. It has a built-in laser pointer that I found very useful while giving presentations. The mouse comes with a USB cable for recharging the battery inside. (The Traveler with a built-in flash memory with the capacity of 512MB or 1GB is under development.) The mice are available in many retail stores and the manufacturer's suggested retail price is \$29.95. See the full description of these devices at www.wow-pen.com. ■



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6. Arthur S. Somers Middle School - 1084 Lenox Rd, Brooklyn, NY 11234
7. IS 24 - Myra S. Barnes MS 225 Cleveland Avenue, Staten Island, NY 10308
8. MS 203, 339 Morris Avenue, Bronx, NY 10451
9. M301: Technology Arts and Sciences Studios - 185 First Avenue, New York, NY 10003
10. MS 217Q - 85-05 144 street, Jamaica, NY 11435
11. Frederick Douglass Academy IV, 1010 Lafayette Ave, 3rd Floor, Brooklyn, NY 11221
12. Middle School of the Arts, 587, 790 East New York Avenue, Brooklyn, NY 11203
13. St. Rita - 260 Shepherd Avenue, Brooklyn, NY 11208
14. St. Anthony of Padua - 125-18 Rockaway Blvd., South Ozone Park, NY 11420
15. Arturo Toscanini MS 145 - 1000 Teller Ave, Bronx, NY 10456
16. Mott Hall II - 234 West 109 Street, New York, NY 10025
17. Mark Twain Intermediate School #239 - 2401 Neptune Avenue, Brooklyn, NY 11224
18. Adrien Block I.S. 2519 - 34-65 192nd Street, Flushing, NY 11358
19. Alternate Learning Center Schools, 960 Prospect Place, Brooklyn, NY 11213
20. Manhattan Alternate Learning Center, 215 West 114th Street, New York, NY 10026
21. JHS 185 Edward Bleeker, 147-26 25th Drive, Flushing, NY 11354
22. TYWLS, Queens, 109-20 Union Hall Street, Jamaica, NY 11433
23. IS 49, 101 Warren Street, Staten Island, NY 10304

FUTURE CITY NEEDS MENTORS

Many schools are still in need of a mentor. If you live or work near any of the schools in the list below, consider making a difference and call Karen Armfield for the updated list and contact information for the teacher (212.701.2808.)

1. Mott Hall IV - 1137 Herkimer Street, Brooklyn, NY 11233
2. Westlake Middle School - 825 Westlake Drive, Thornwood, NY 10594
3. P.S. 175 - 200 City Island Avenue, Bronx, NY 10464
4. Jericho Middle School - 99 Cedar Swamp Road, Jericho, NY 11753
5. Halsey JHS 157Q - 63-55 102nd Street, Rego Park,

Each time you visit the school you will go over a different engineering topic with the students, for example: bridges, buildings, zoning, power supply, power production, water supply, pollution, traffic impacts, transportation, manufacturing, etc. These topics do not have to be spoken about in complete detail; a general overview of each topic will suffice as the students are in seventh and eighth grades. Mentors can be from any engineering discipline, but should have a general knowledge of most of the topics listed.

You can e-mail Karen Armfield, the NYC Regional Competition Coordinator at armfield@aecom.com, phone: 212.701.2808. ■

TAPPAN ZEE SUBSECTION TOURS THE INDIAN POINT POWER PLANT

Report by David Weiss

On October 15, 2008, the Tappan Zee Subsection sponsored its fourth annual tour of the Indian Point Power Plant, their most popular event. This year 36 people signed up for the tour of this vital facility in Buchanan NY. The tour was timely as energy is much in the news these days. It impacts on the country's balance of payments and people's pocket books, especially in the current economic crisis. It is also an important issue in the discussion of greenhouse gases and global warming in addition to its impact on national security as dollars flow from the US to not so friendly countries.

The Briefing

The tour began with a briefing by Pat Falciano and Kathy McMullin on nuclear energy, the plant, and what we were going to see that day. The briefing addressed the four questions that are most on people's minds regarding nuclear energy.

1. Is nuclear power safe? Some facts: twenty percent of the US' electricity comes from the 104 nuclear plants that have been operating for decades. Some radiation was released in a partial meltdown at Three Mile Island thirty years ago, but no one was hurt in that incident. American power plants have otherwise operated safely.
2. What about radiation? There is so little radiation present in the containment structure (where the reactor is located) that workers don't even need protective clothing - other than to protect them from dirt. Coal plants give off three times as much radiation in combustion as do nuclear plants due to the uncontrolled release of uranium and other naturally occurring radioisotopes in coal.
3. What about spent fuel? Currently spent fuel is stored in containment areas on site. This is because reprocessing was halted in the U.S.A. in 1976 due to concern for arms proliferation. However, it is likely that commercial reprocessing will soon restart. Reprocessing has continued in France, which uses nuclear power for 80% of its electricity, along with Russia, Japan, the United Kingdom, and India.
4. What about security? I'm not giving out any secrets here, but let's just say buildings that can withstand the pressure of nuclear reaction from the inside can also endure a lot from the outside. In addition, as we

saw, there is extensive internal security (identity badges, gates and barriers, armed personnel) as well as the presence of both the army and navy.

The Tour

Indian Point is a large facility – over 200 acres – so we couldn't see everything up close, but in about two hours, we saw a lot. There are three reactors on site. Unit 1, the oldest and smallest, is no longer in service. Units 2 and 3 are nearly identical with each producing



1000 megawatts. That is about 10% of the electricity needed by New York State. Indian Point uses pressurized water reactors and turbines built by Westinghouse and generators built by GE in 1974 and 1976 respectively.

The tour included the Unit 2 Turbine and Generator and the Unit 2 Control Room Simulator. The turbine/generator building is massive – both above and below ground – and has a 250 ton traveling crane overhead as well as several smaller ones.

For those not up on nuclear power here's what that means: a nuclear reaction takes place in the reactor which is cooled by water circulating around it in a closed loop. This circulating water goes through a heat exchanger that boils water in a second closed loop into high pressure steam that then goes through a massive turbine. The turbine shaft rotates in the generator creating the electricity which then goes out on the grid at 345 kv. Such high voltage requires huge insulators, but results in fewer transmission lines leaving the plant compared to other types of power plants.

Each of the two units has its own Control Room Simulator. This is because there are minor differences between the units that require separate training facilities even though they have the same technology, were built around the same time and for the same location. New 'standard designs' are intended to remove such differences. ■



The NY Chapter of the
IEEE Computer Society invites you
to a presentation by



Phillip A. Laplante, Ph.D., P.E.

Monday, December 15, 2008 5:30 — 6:45 pm

(refreshments & greeting 5:30 pm, presentation, followed by Q&A, starts at 6:00 pm)

Software Engineering:

View From the Top—With Occasional High-Resolution Snapshots



Yes, we can.... build high quality software systems, but it is not that simple. Our speaker, Phillip Laplante, describes his recent work, which he claims makes building high quality systems a little easier. Proving that building high quality software was always a challenge, he'll also share some reminiscences of his father, who was himself a "second generation" computing pioneer.

Phillip Laplante, PE, Ph.D. is Professor of Software Engineering at Penn State University and an IEEE Fellow. He has extensive experience in industry including building inertial measurement systems at Singer-Kearfott and conducting software testing at the AT&T Software Quality Assurance Center. Although he has spent the

last 20 years in academia, he helps NASA, Fortune 1000 companies, and several small firms on a variety of software quality issues. He has published more than 150 scholarly articles and 24 books.

Dr. Laplante has been a very active volunteer for the IEEE for more than 20 years and is currently a member of the Boards of Governors for both the Computer Society and Reliability Society and serves on various operational committees.

Location: MTA/New York City Transit, 2 Broadway, New York NY 10004, 2nd Fl.—D2.10 A&B

Nearest Subway: Bowling Green (4 & 5 trains)

RSVP required by Friday, December 12, 2008 — **No walk-ins allowed for security reasons**

Email Thalia Lashley, Thalia.Lashley@nyct.com or phone 646.252.3533

Alternate contact: George Hacken, email: george.hacken@nyct.com or phone: 646.252.3906



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Strategy Classes are from 6:00-7:45pm , All others are from 6:00-9:00pm			
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Strategy Classes are from 6:00-7:30pm , all others are from 6:00-9:00pm			

REVIEW COURSE FOR THE PE EXAM-ELECTRICAL ENGINEERING All multiple choice, no choice, breadth/depth exam			
<p>The Electrical Computer Professional Engineer Exam will change in April of 2009. We do not know what the program will be, but as soon as the new exam specification is known it will appear on www.percinc.com and in future issues of the NY Monitor, published by the NY Section of the IEEE.</p>			
Classes Begin		Classes End	
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2009 NY Section Awards Dinner Dance

**THE 2009 NY SECTION AWARDS DINNER DANCE HONORING THE SECTION'S AWARDEES WILL
BE HELD ON SATURDAY EVENING,
FEBRUARY 21, 2009**

This year, our dinner dance (black tie optional) will be held in the beautiful Trianon Ballroom, located on the third level (coat check is on the second) of the New York Hilton Hotel and Towers at Rockefeller Center, 1335 Avenue of the Americas (between 53rd and 54th Streets).

Festivities will begin at 6:30 P.M. with crudités and cocktails in the Petite Trianon. Here we will have a chance to relax, get acquainted and reacquainted.

You will have the opportunity to pamper your palate with a choice of either a succulent meat or a delicious fresh fish steak. Each gourmet entree will be accompanied by an appetizer, salad and dessert. There will be a brief awards ceremony after dinner and dancing to the sounds of the Dance Fever Orchestra.

For those wishing to spend the night, hotel reservations may be made on-line at various web service providers or directly with the hotel at 212-586-7000. There are no special arrangements made for parking.

Reservations for the affair may be made by completing the coupon below and forwarding it to William Perlman at the address indicated before February 1, 2009. Corporate supporters: Table of 10 at \$1850.00

**A special non-transferable rate of \$100 for each ticket is available to IEEE members.
Note that this rate is for the attending IEEE member and a guest only.**

**Organizations wishing to be Industry Supporters or non-IEEE members
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Ralph Tapino (718) 761-5104 / raltap@aol.com or William Perlman (973) 763-9392 / w.perlman@ieee.org

MEMBER RATE RESERVATION FORM

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