Balvinder Blah in the halls of the US Congress

Story on starts on page 8
The IEEE Monitor

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- Contact person name, e-mail address & phone number
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- 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

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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.

The NY Monitor needs reporters and proof readers. 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

you can always find the NY Monitor online at http://www.ieee.org/nymonitor
As you read this message, summer is almost behind us, but as I write this I am still preparing to attend the Region 1 Meeting of Governors that will take place in Burlington Vermont, August 11—13. I hope to share more about this event with you in the October issue of the Monitor.

As the summer progressed, not only New York has seen its share of infrastructure challenges, but Minneapolis and Utah as well. My heartfelt condolences go out to the families who suffered loss during these calamities.

To me it is once again clear, that we really need to develop many more capable, well educated young engineers, be it electrical or otherwise. And as this is the beginning of a new semester, I have a request for those of you who are teachers. I encourage you to introduce your students to the IEEE. If you have a student branch in your University, maybe you can give a student representative of the IEEE chapter the opportunity to give a short presentation in one of your classes. If your University has no IEEE chapter, or the IEEE student chapter is dormant, come and ask us for help. We will hook you up with some dynamic people, who will do everything in their power to get you started. I also invite you and your students to attend or participate in the technical meetings the NY Section presents throughout the year.

The year 2007 at the time of this writing is more than half over, and I have been New York Section Chair for eight months. I look forward to an active fall and winter season. For your end of summer reading list I recommend an excellent article in the July issue of “Spectrum”. It was written by Terry Costlow a Chicago based technology writer. Costlow, as stated at the end of the article, covers engineering careers and the impact of technology on society. The article “Hiring Heats Up” can be found on pages 57-60.

And some food for thought: The replacement cost of a battery for the i-phone, that came out this summer, is $100, which is about 20% of the total cost. Just imagine the same ratio would apply to your car battery; for a $25,000 car a new battery would cost $5000.

I received a letter from a reader in response to a previous “Monitor” article I wrote and I hope to discuss the comment next month.

As always, we in the New York Section look forward to your comments, please let us know if you have any objections to having your letter published under the listing: letters to the chair. ■

Stanley Karoly

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New York had a relatively cool summer, but nevertheless New Yorkers were challenged, first by the steam pipe explosion and second by the tremendous rainfall that knocked out the subway system. At the time of the steam accident, it just so happened that I took out “The Works, Anatomy of a City” from the NY Public Library, one of my favorite institutions. The Works is written by Kate Ashner and was published by The Penguin Press in 2005. Ashner did an admirable job in presenting the complex infrastructure of New York, from transportation systems to sewage disposal and everything in between. She not only shows the historical context, but she looks to the future as well. I think it is required reading for every New Yorker. The many illustrations are clear and give a great insight in how the system is put together. Ashner points out that the New York steam system, which is the biggest in the world, was introduced in 1882 by the New York Steam Company to “dramatically reduce the amount of soot coming from individual coal-burning furnaces.”

As is becoming abundantly clear, we need to make many adjustments to deal with the effects of climate change. During the summer I experienced first hand the power of wind energy as I took three sailing classes given by the National Park Service at the Marina across from Floyd Bennett Field. The marina is home to many large motor powered boats, but many of them never left the marina this summer, because gasoline prices are high and the engines are gas guzzlers.

Many of you are involved in improving the city's infrastructure and creating the infrastructure of the future. I thank K. Raghunandan for his second contribution on Green Energy, in which he identifies possibilities for the application of both sun and wind as a source of renewable energy in the New York area.

I welcome Camille A. Alma to the editorial staff of the NY Monitor. Camille has done a terrific job editing many of the articles. I cannot imagine how I would have done without her.

As you can see our September issue is full of reports. We have two reports on trips to Washington; the first one by Charles Rubenstein, member-at-large of the NY Section Executive Committee. He participated in the Fourth Annual IEEE-USA Fly-in in March. He also brought back some great pictures. Balvinder Blah, the Students Activity Chair traveled to Washington D.C. in May to participate in the Congressional Visit Days, sponsored by the Science-Engineering-Technology Work Group. By the time you read this, some of the legislation might have been decided, and hopefully both Balvinder’s and Charles’s efforts will have had a positive influence.

Balvinder also reported on the combined Region 1 Student/GOLD/WIE Conference that took place at Fairleigh Dickinson University. I thank David Weiss and Jignasa Ray for their reports on the LISAT 2007 conference and the 2007 First Robotics Competition and Career fair reports respectively.

We are always looking for more articles and especially notices for events. I particularly ask for the help of chapter chairs to respond to the request for event notices send out by Jean Redmond every month.

Last but not least, on page 14 you can find the nominations for Officers and Elected Committee Chairs for the NY Section Executive Committee for 2008.

I thank all contributors for their articles and my able editors for all their help and I thank you for reading the NY Monitor. Please don’t hesitate to send us your comments and requests.■

The Monitor staff congratulates Darlene, Felix and Andrew Rivera on the arrival of their daughter and sister. Darlene is the past chair of NY WIE and the Secretary of the NY Section. She is nominated to be the NY Section Treasurer in 2008.

Danielle Emily Rivera

Danielle was born on July 27, weighing 7lbs, 1oz and she was 19 inches tall.
CALENDAR OF EVENTS
(mark your calendar)

Note: The NY Section Monitor sometimes posts non IEEE events or events that take place outside the NY Section area because we think they are of interest to our readers. If you know of such an event, please let us know and if there is room we will consider posting it. The events in LI are referenced from the LI Section online calendar: http://www.ieee.li/calendar.htm. Also check the New York IEEE Online community website, https://www.ieeecommunities.org/ieee.ny, and look for the calendar.

Wednesday, September 5, 2007 – 7:00 pm
Long Island Consultants Network Meeting
A Brief History of Cryptography, Jack Lubowsky, PhD, PE
Location: Briarcliffe College (The Great Room) Bethpage, LI
John Dunn (ambertec@ieee.org) 516-378-2149 No pre-registration is required

Wednesday, September 8, 2007 – 10:00 am 5:00 pm
White Plains Historical Society will be hosting an antique emergency vehicle show: Fire engines, ambulances, etc.
Location: Three block stretch of Mamaroneck Ave between Main and Maple
Information: Tony Spinelli at 914 403 3334

Tuesday, September 11, 2007 – 6:00 pm 6:30 pm Lecture
EMC Society Meeting
Mohr on Minimizing Crosstalk in Wiring and Cabling, Richard J. Mohr
Location: Telephonics Corporation located at 815 Broadhollow Road (Route 110), Farmingdale, NY 11735
The facility is located just north of Route 109 on Broadhollow Road.

Tuesday, September 11, 2007 – 6:00 pm – 10:00 pm
NYC Green Drinks (every second Tuesday of the month)
Every month people engineers, architects, ecologists, scientists, green designers and manufacturers, publishers, press, and many others meet up for cocktails at informal sessions known as Green Drinks.
Location: Not available at the time of publication, but check http://www.green-links.org/weblog/greendrinks.php for future dates.

Wednesday, September 12, 2007 – 12:00 noon – 2:00 pm
NY Section Executive Committee (ExCom) Meeting
Location: Con Edison, 4 Irving Place New York, NY 10003, Room 1549S
RSVP required: Paul Sartori sartorip@coned.com No walk-ins allowed for security reasons!
If you are not an EXCOM member and wish to attend, please contact: Stanley Karoly at stkar@ieee.org

Monday, September 24, 2007 – 8:30 am – 5:00 pm
Aerospace & Electronic Systems Society, Full-Day Tutorial (The lecture is open to the public)
Space-Time Adaptive Processing (STAP), Dr. Michael Picciolo
Location: Lupton Hall Room T101 SUNY Farmingdale, 2350 Broadhollow Road (Route 110), Farmingdale, NY 11735
Registration required and the fee is either $60 (for IEEE members) or $85 (for non-IEEE members) lunch included

Wednesday, October 10, 2007 – 12:00 pm – 2:00 pm
NY Section Executive Committee (ExCom) Meeting
Location: Con Edison, 4 Irving Place New York, NY 10003, Room 1549S
RSVP required: Paul Sartori sartorip@coned.com No walk-ins allowed for security reasons!
If you are not an EXCOM member and wish to attend, please contact: Stanley Karoly at stkar@ieee.org

Wednesday, November 14, 2007 – 12:00 pm – 2:00 pm
NY Section Executive Committee (ExCom) Meeting
Location: Con Edison, 4 Irving Place New York, NY 10003, Room 1549S
RSVP required: Paul Sartori sartorip@coned.com No walk-ins allowed for security reasons!
If you are not an EXCOM member and wish to attend, please contact: Stanley Karoly at stkar@ieee.org

Wednesday, September 26, 2007 – 6:00 pm Refreshments 6:30 pm Lecture
MTT Society Meeting
Making Designs Robust Using Statistical Methods, Murthy Upmaka
Location: Telephonics Corporation, 815 Broadhollow Road (Route 110), Farmingdale, NY 11735
Information: Additional information and registration will be posted at a future date on http://www.ieee.li/calendar.htm

Wednesday, October 31, 2007 – 8:30 am – 9:30 am
PACE NY Section presents—Retirement Planning for Engineers and Architects
Guest speakers: E. Richard Baum, CPA, J.D. and Phillip M. Ross, CPA
Location: Anchin, Block & Anchin, LLP, 1375 Broadway, 10th Floor, New York NY 10018
RSVP required: By Wednesday, October 24, 2007 Call Eric Horn (212) 536-6871 or e-mail eric.horn@anchin.com
REPORT ON
FOURTH ANNUAL IEEE-USA CAREER FLY-IN
Charles Rubenstein; New York Section Member-at-large

Each year the IEEE-USA invites volunteer leaders from selected sections to participate in grass roots efforts targeted at specific pending legislation. One of these efforts is the Annual IEEE-USA Career Fly-In. This year’s effort was to urge Congress to take actions to streamline and improve the U.S. visa processing system to eliminate unnecessary delays and allow priority processing of visitors who want to enter the United States to participate in educational, scientific and technical collaborations, such as symposiums and conferences. This year IEEE-USA felt that congressional leaders from New York State – notably Senators Schumer and Clinton and Congressmen King and Ackerman as well as others – were key players in pending votes on immigration legislation.

Bob Bruce, representing the Long Island Section, and I, representing the New York Section, joined several dozen - primarily northeastern - IEEE volunteers who were invited to participate in an on-site training session and discussions on Green Card vs. Guest Visa issues in Washington, D.C. on March 13-14, 2007.

Since then, the IEEE-USA has issued a position statement: ENSURING A STRONG HIGH-TECH WORKFORCE THROUGH EDUCATIONAL AND EMPLOYMENT-BASED IMMIGRATION REFORMS

The descriptions of visas below are from this position statement.

“Temporary Work Visas – Specialty occupation (H-1B) visas allow foreign professionals with bachelor’s or higher degrees to work for sponsoring employers for six years and are available in limited numbers. H-1B workers are effectively tied to their sponsoring employers. Weak worker safeguards coupled with lax oversight and enforcement by government agencies can result in abuses that harm U.S. and foreign workers.”

Once here, the H-1B visa holder, under the sponsorship of the company that brought him/her in, shares their knowledge and builds new knowledge in specific areas. Much of that knowledge will be lost to the U.S. and its economy after the visa expires.

“Permanent Employment-Based Visas – Foreign professionals seeking legal permanent resident status can be admitted as immigrants on family or employer-sponsored visas or Green Cards. Because employment-based (EB) admissions are limited to 140,000 per year, worldwide demand for Green Cards always exceeds the available supply. Per country limits and visa processing inefficiencies result in substantial backlogs and long waits, especially for applicants from high demand countries like China and India.”

As immigrants, visa-holders can remain in the U.S. and thus they continue to make our economy strong in the future.
Bob and I had a 10:00 am appointment in Senator Chuck Schumer’s office. We met with Elliot Williams, Counsel to the Senator (elliot_williams@judiciary-dem.senate.gov) and discussed the EB/F-4 vs. H-1B visa issue with him.

At 11:30 am, I accompanied Bob to Congressman Gary Ackerman’s office and met with Senior Legislative Assistant Jared Frost (jared.frost@mail.house.gov). Again our presentation focused on not ‘throwing out the baby with the bathwater’ by getting rid of H-1B, but by substituting true immigration options for high-tech professionals through the EB visa program and by creating the F-4 program. Frost responded positively to our suggestion of keeping the 65,000 cap on H-1B visas while fixing H-1B visa issuance and abuse problems, and expanding green card immigration programs instead.

After lunch, around 2:00 pm, as I was ‘hanging’ around Congressman Peter King’s office, being early for my 3:00 pm appointment with his Senior Legislative Assistant Adam Paulson (adam.paulson@mail.house.gov), I saw the Congressman dashing out to vote. He graciously agreed to be photographed with me when he returned and then he invited me to wait inside his office for my 3:00 pm appointment.

About a half hour later, Joseph J. Battaglia, president of Telephonics Corporation, former LI Congressman George Hockbruckner, Tom Luketic, Director of Business Development of Telephonics Radar Systems Division (Maryland Offices), and Peter Rettaliata, President of Air Industries Machining Corporation came in for their appointment with Congressman King! And while they waited for their meeting, I took the opportunity to have a photo taken with Joe Battaglia and George Hockbruckner and I also had time to discuss my intention to have Joe be an Honorary Chair for the local IEEE Long Island Systems Applications and Technology Conference - LI-SAT2008.

To my surprise, when I mentioned LISAT at Farmingdale State College (SUNNY), Joe noted he had seen the Dr. Hubert Keen, President of Farmingdale State College, earlier in the day at the office of Senator Schumer, and wanted to meet with him to discuss the need on LI for a strong two-year technology program to supplement the local industries’ needs for excellent technicians as well as engineers.

I briefed Joe and George on the Green Card vs. Guest Worker visa issue as well. Joe Battaglia mentioned yet another reason for wanting Green Cards – increased Homeland Security requires security clearance for people holding sensitive positions, and such clearance is not available for guest workers. It may well be that a stronger relationship between Farmingdale State College and Telephonics and the IEEE Long Island Section will be the result of this chance meeting.

The meeting with Adam Paulson of Senator King’s office completed the day’s schedule. I enjoyed this trip to the Hill and thought it was successful on many levels. I look forward to supporting IEEE-USA’s efforts at future grass-roots events.

IEEE-USA also participates in the annual Science, Engineering & Technology Congressional Visits Day (SET CVD), typically held in May, in Washington, D.C., where U.S. IEEE members join with hundreds of other engineers and scientists to deliver the message that Federally funded research secures the nation’s future.

For general information on how IEEE-USA builds careers and shapes public policy, please see the web site at: http://www.ieeeusa.org/policy/

To be considered for future SET CVD’s and Fly-in efforts, please join IEEE-USA’s Congressional Advocacy Recruitment Effort (CARE) by registering on www.ieeeusa.org/policy/care/ or by contacting Russ Harrison by e-mail: r.t.harrison@ieee.org or by phone:(202) 785-0017.

Additional links
SET CVD program: www.ieeeusa.org/policy/cvd/
On career issues: www.ieeeusa.org/policy/flyin/career/
Region 1 Student Conference is an annual conference where students compete in a paper presentation and a Micro-Mouse Competition. This year, the conference was taken a step further by introducing Graduates of the Last Decade (GOLD) and Women in Engineering (WIE) events to help students network with the company professionals and attend a career fair. The conference lasted three days and they were three days full of great events.

We started the first day with GOLD and WIE informational events, where WIE presented an award to the NY Section WIE affinity group. They also announced that the WIE scholarship for this year is awarded to John Adams High School of New York. Also, the Regional Activity Board GOLD chair Soon Wan presented IEEE shirts and other gifts to his team. The first day ended with a dinner where we played ice-breaker games to get to know everyone in the conference. This was the time I got a chance to network with the City College of New York team. An interesting thing I would like to remind our members about our MEMBERS GET A MEMBER program where the recruiter will earn a credit voucher for each member recruited which can be used toward 2007 IEEE dues, IEEE Society fees, the purchase of IEEE products and services, or a donation to the IEEE Foundation. For details please see the web-site: www.ieee.org/web/volunteers/membership_dev/mgm.html

The second day was full of competitions and seminars where Cooper Union team won third place in the Micro-Mouse. Cooper Union’s students Tim Bolbrock, Peter Derderian, Graham Gibbons, and Angelo Maragos also won the first place in the paper contest. I tried to get a glimpse of every competition and the seminar.

After I encouraged Cooper Union at the Micro-Mouse Competition, I went to participate in the GOLD competition where we had to fly a helicopter and land it as close as possible to the marked point. I then ventured on and got the opportunity to network with the students from College of Staten Island. Then I made my way to the interesting seminars on Professional development for women, Managing your portfolio and Stuff you don’t learn in Engineering school. The day ended with a nice reception where we got a chance to interact with each other and celebrate the success of those that were awarded. The Micro-Mouse Competition, GOLD Competition, Paper Contest and Career Fair all took place simultaneously. It was a day full of activities as you can see in the picture on the next page, our competitors were tired.

Finally, we wrapped up the conference on Sunday with a Micro-Mouse tutorial from Soon Wan, who I would call a Micro-Mouse expert. He is willing to teach anyone who would like to learn about the Micro-Mouse.

Overall it was a great networking and a learning experience and I encourage everyone to participate in a similar event next year around the same time.
Cooper Union team won third place in the Micro-Mouse Competition from the left: Javier Rodriguez and Vicky Lay.

Regional Activity Board Gold Member Khen Swee Goh received an IEEE shirt.

Regional Activity Board Gold Member Rob Vice tries on his IEEE shirt.

Students from College of Staten Island, from the left Nandhini Sudarsanan, Kushal Jain and Ben Tsui.

Our competitors were tired.

City College of New York team from the left Redwan Ahmed, Alabi Paul, Tence T. George, Alabi Peter, Emmanuel Hereira, Andy Zhou, and Morann Dagan.
IEEE CALLS ON CONGRESS FOR MORE INVESTMENTS IN RESEARCH AND DEVELOPMENT
By Balvinder Blah (Student activities Chair)

On May 1-2, I traveled to Washington, D.C. as an IEEE representative to express to Congress the need for increased and balanced federal investment in research and development and to draw attention to the fact that federally funded research is critical to securing the nation’s economic future. I joined with nearly three-hundred scientists, engineers, and business leaders who made visits on Capitol Hill as part of the twelfth annual “Congressional Visits Days,” an event sponsored by the Science-Engineering-Technology Work Group.

Highlights of the two-day event included remarks by leading science administrators in the federal government, including Sharon Hays, Associate Director for the White House Office of Science and Technology Policy, Chuck Atkins, Chief of Staff of the U.S. House Science and Technology Committee, and Kathryn Clay, Professional Staff for the U.S. Senate Committee on Energy and Natural Resources.

A Congressional reception was held to present the George E. Brown Jr. Science, Engineering, and Technology Leadership Award to Speaker of the House Nancy Pelosi and Senator Lamar Alexander. At a breakfast meeting, Rep. Michael Honda of California, a member of the House Science and Technology Committee, offered his support for the event to bring attention to Federal science and technology programs. The attendees collectively made hundreds of visits to their Senators and Representatives.

Dr. Subrata Saha, a Biomedical engineering professor, and I spoke to David Mustra, staff member of Senator Hillary Clinton. David Mustra, who has a science background, was very supportive of our request for an increase in R&D funding. We also had a chance to meet Senator Schumer’s Counsel, Elliot Williams. We then went to speak to Congressman Gregory Meeks and his staff member Kim Fuller. During my meetings, I discussed the importance of the nation’s broad portfolio of investments in science, engineering, and technology to promote national security, prosperity, and U.S. leadership in competitiveness and innovation. Most importantly, my discussion provided perspective on the local and national impact of these programs and their significance.
More than fifty percent of all industrial innovation and growth in the United States since World War II can be attributed to advances pioneered through scientific research, with publicly funded R&D, the vital foundation for today's scientific and technological progress. Examples of scientific and technological advances that can be traced back to federally funded science, engineering, and technology include global environmental monitoring, lasers, liquid crystal displays, and the Internet. Our leadership in this area is one of our great advantages for ensuring homeland security. It is also crucial for ensuring our economic well-being.

I was pleased to have the opportunity to participate in this event. I feel strongly that making our voices heard to our elected representatives in Washington is critical to ensure ongoing support of Federal R&D programs. It is crucial to the continued leadership and strength of the nation that we commit increased resources to these efforts.

Additional information concerning the Congressional Visits Day can be found on www.setcvd.org.

Blavinder Blah works for Consolidated Edison as a Substation Supervisor.

NY SECTION IEEE RECEIVES AWARD FOR VOLUNTEERISM

Karen Armfield, Future City Competition Regional Coordinator presented the NY Section with an award for their support for the Future City Competition. Blavinder Blah, Student Activities Chair, and David Weiss, Vice Chair Operations, accepted the award for the NY Section and all the volunteers who participated during the Future City Competition as mentors, judges and general volunteers. The inscription reads:

A.S.C.E. Polytechnic University
2006 NYC Metropolitan Region
Future City Competition
Sponsor Recognition Award
Presented to IEEE In Appreciation For
Your Support Of Competition
January 20, 2007

Senator Lamar Alexander on the left receives the George E. Brown Jr. Science, Engineering, and Technology Leadership Award from IEEE-USA president John Meredith

From left Blavinder Blah, Student Activities Chair, Karen Armfield from DJ Harris, Future City Competition Regional Coordinator and David Weiss.
2007 FIRST Robotics Competition and Career Fair at Jacob Javits Center
By Jignasa Ray (New York City Transit Authority)

Despite the heavy snow storm, FIRST (For Inspiration and Recognition of Science and Technology) Robotics competition on March 17-18, 2007 at the Jacob Javits Center brought in crowds and excitement as the opening ceremonies were delayed. The 2007 competition included sixty-three FIRST Robotics teams from New York City, the metropolitan region, and as far away as Brazil, Israel, and the United Kingdom. FIRST is a growing robotics program that gives high school robotics teams a ‘challenge’ and 6 weeks to build a robotic solution. FIRST designs accessible, innovative programs that build not only science and technology skills and interests, but also self-confidence, leadership, and life skills. The event was a world-class celebration of high school students, engineers, and mentors creating and discovering tomorrow’s science and technology! Among the competing teams, six were sponsored by New York City Transit and three of these were mentored by New York City Transit-Capital Program Management Engineers. The Lehman Lionics and L.E.S. Cyborgs, teams mentored by NYCT CPM Engineers, won major awards and qualified to compete in the finals in Atlanta, Georgia in June 2007. This year a career fair was an added attraction, twenty major New York City corporations were present - including Con Edison, New York City Transit and Polytechnic University - to offer information about summer jobs, internships, co-op positions, and other employment opportunities at the career fair.

As I walked through the ‘pit’ area and watched the kids run around to make last minute adjustments to their robots and hear them talk about sensors, programmable switches and timers and what they can do (Continued on page 15)
You are cordially invited to a free seminar and breakfast designed to discuss and answer some of the questions you may have about retirement planning:

**RETIREMENT PLANNING FOR ENGINEERS & ARCHITECTS**

What are the tax considerations for your investments?  
How do you calculate your living expenses for retirement?  
How can you protect your assets?  
What are your insurance requirements?  
What are the keys to estate planning?

Guest Speakers are:

**E. Richard Baum, CPA, J.D.**  
Tax Partner  
Partner-in-Charge of  
Anchin Wealth Management  
Anchin, Block & Anchin, LLP

**Phillip M. Ross, CPA**  
Audit Partner and  
Chairman of the Architectural & Engineering Services Group  
Anchin, Block & Anchin, LLP

Wednesday, October 31, 2007  
8:30 AM – 9:30 AM

Anchin, Block & Anchin, LLP  
1375 Broadway, 10 Floor, New York, NY 10018

Credits towards your New York State engineering or architectural licenses are available as well as credits towards your membership in the AIA. Your friends and colleagues are welcome!

Seating is limited. Please reserve your seat(s) today.

Please RSVP by Wednesday, October 24, 2007 to:  
Eric Horn at (212) 536-6871, eric.horn@anchin.com or  
Martin Izaak, Chairman - NY PACE at (212) 736-1255 X2760, mizaak@urbanengineers.com
Nominations for Officers and Elected Committee Chairs for the IEEE New York Section Executive Committee 2008

The Nominations Committee of the IEEE New York Section - Paul Sartori, Chair, Ralph Tapino, Robert Pellegrino and Benjamin Schall - proposes the following slate for election as officers and elected committee chairs of the Executive Committee for the period January 1, 2008 to December 31, 2008.

All Members in good standing - except Student or Affiliated Members - of the New York Section are eligible to vote. The election meeting is scheduled for Wednesday, November 12, 2007 beginning at 5:00 pm in the Edison Room at Con Edison, 4 Irving Place, New York NY 10003. Voting will take place at 5:30 PM.

Officers Elected
Chairman - David Weiss
Vice Chair Operations - Warner W. Johnston
Vice Chair Section Activities - David Horn
Treasurer - Darlene Rivera
Secretary - Balvinder Blah

Committee Chairs
By laws - William Coyne
Chapter organization - Bertil Lindberg
Managing editor - Marlen Waaijer
Long range planning - William Perlman
Publications - Ben Schall
Special events - Ralph Tapino
Web master - Harold Ruchelman

Additional nominations, made by petition, should be postmarked no later than October 8, 2007 and mailed to: Paul Sartori, Chairman of the Nominations Committee, Con Edison, 4 Irving Place — Room 1500, New York, NY 10003.

In the first part of this article which appeared in the March 2007 issue of the Monitor, K. Raghunandan introduced the state of technology and some possible choices for generation of Green Energy in NY City. In this article he explores the different natural resources and how to improve their efficiency.

GREEN ENERGY – THE NEXT FRONTIER FOR ELECTRICAL ENGINEERS – PART 2
By K. Raghunandan, Senior Member

The purpose of this article is to bring environmental awareness to all of us as Electrical Engineers and citizens alike. We have a responsibility to help the city move in the right direction. Mayors of all major cities of the world met in New York recently to address these issues and share their experiences. It is important keep this momentum and begin implementation of such ideas.

Two alternative sources of energy – wind and solar - are available for effective use in the New York metropolitan area. The problem is to find ways to convert this energy into electricity that can be distributed by the current infrastructure. The average wind speed in the city is 10 mph — 16 mph, and often much higher - depending on the season. Sunshine is abundant, but varies from 6 hours in winter to about 14 hours during summer months.

Solar power can be put to use in many ways:
- It can be used to drive a generator with the use of a solar concentrator
- It can be converted to electricity after it has been captured by photovoltaic cells
- It can be used as a heat source for heating water with the use of solar collectors that retain heat for some time
- It can be used for direct lighting, by carrying the light through fiber optic networks to the interior of buildings.

Solar cells on the other hand are used for powering systems that are used throughout the day and night times. Therefore, the use of a backup battery to store the energy for use after sunset is quite common. It is also possible to provide a combination of these techniques.

One problem with green energy is that even though there are alternative (natural, reusable) sources, we still have to use current carbon-based energy resources to create the new infrastructure. What this means is that to create solar cells or build windmills, we still have to rely on electricity and other energy sources that are based on nonrenewable sources such as coal, oil, gas, and the like.

Therefore, we must recognize that although initial capital outlay may seem expensive, the operations and maintenance costs of green energy projects are low compared to electricity coming from the grid today. This has been encouraged in many states - NJ and CA for example - where individuals and corporations own and operate small-scale power generating units that feed electricity to the grid. In terms of support from worldwide standards, the Global System for Mobile Communications Association (GSMA) has a development fund to encourage the use of alternate energy to power up the base stations of the GSM cellular networks. GSM is a popular standard used for cell phones both in Europe and
several countries throughout the world. The combination of solar and wind energy is so promising that companies such as Motorola have seriously ventured into providing cellular service using just these two sources. In Swindon, UK, Motorola uses a green energy project to provide 1200 Watts needed for powering up a Base Transceiver System (BTS) supporting GSM service. Also, Ericsson is experimenting with bio-diesel (made from peanuts, pumpkin seeds and palm oil) to power cellular networks in Nigeria, where they foresee a fast developing market for GSM.

In an urban environment like New York City, one approach is to have many individual generating units in each building that can provide energy to that building and feed the excess energy to the grid. This approach is better than the conventional method of centrally generating electricity and distributing it over a large geographic region.

Electricity consumed in the metropolis is far greater than in rural areas because of the population density. Amenities such as building A/C units, elevators, and heaters for building and sewer systems become “essentials” to keep the city moving, they need extra energy. All of these services are now fed by grid electricity since their power needs are substantial. Therefore, if green energy units can focus first on essential services that consume less power it could serve as a confidence building measure. Examples include [street] lights, communication infrastructure (base stations that consume about 1500 Watts), WiMax microwave links (500 watts), WiFi access points (200 Watts), and the like; their typical consumption is comparable to the energy used by several light bulbs. Even though individual devices consume low power, the overall green energy provided would still be substantial. Electricity generated locally gets used locally; this avoids transmission losses of a typical grid that transports electricity over many miles.

Recently scientists\(^2\) have concluded that carbon based fuels can run out by the year 2040 or earlier. By that time green energy projects can get to the scale of supporting high power units (A/C, heating etc). We would have just enough time and resources to switch over to these renewable energy sources.

Whether to use smaller units that can be mounted on light poles or to use larger units mounted on buildings, or both, is a debate that can be resolved with pilot trials. Whatever the outcome, it is fair to estimate that between 20 – 30% of the demand for electricity can be met by currently known technology for green energy. This would be the first, confidence-building step. Windmills for rooftops can be small – a 5-m (15-ft) diameter turbine could provide 1kW of power. Whether to use conventional wind turbines or vertical wind turbines that do not have long blades on rooftops, how small should the turbines be, are factors that can be assessed during trials. An excellent resource for the use of windmills is available at: www.windustry.com/calculator/default.htm

As engineers and professionals we have much to offer in supporting these projects that can become success stories. In the course of our involvement (directly or indirectly) with these projects as designers, integrators, managers, or trial users, we can learn new ways to conserve and use energy. This revolution is just starting.

Raghunandan is an acknowledged industry expert in wireless technology. He is the past chairman of the NJ Coast Section of IEEE. He holds Bachelor's, Master's, and Research degrees in Electrical Engineering. He worked in the field of satellite communications, wireless communications and access systems for thirty years, ten of which at Bell Labs. He currently works for the New York City Transit Authority as a Manager responsible for new technology wireless systems. He has published papers in several international IEEE Conferences and journals and has lectured at universities in the USA, UK, Malaysia and India.

\(^1\)http://www.nycclimatesummit.com/
\(^2\)http://news.bbc.co.uk/2/hi/in_depth/sci_tech/2006/energy/default.stm

Relevant websites:
Follow the “Underwater Power Generator could be Wave of City’s Future” link on www.citylimits.org/content/articles/weeklyContents.cfm?issuenumber=540
www.windustry.com/calculator/default.htm

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with it to win the challenges was impressive. It was great to see the kids get into the engineering mindset and consider pursuing career in engineering.

Some comments from the volunteers who manned the NYCT career booth at the First Robotics event:

“This has been my third year participating in the FIRST Robotics competition and it is always uplifiting to see students involved in engineering, and getting such obvious pleasure and satisfaction from it.

Steve Callender (New York City Transit Authority)

“It was impressive to see a low budgeted group like Team #56 designed their robot in a simplistic, yet effectively successful way.”

Ajaijoe Koola (New York City Transit Authority)
SCSS 2007 provides a virtual forum for presentation and discussion of the state-of-the-art research on computers, information and systems sciences and engineering. SCSS 2007 is one of the sub-conferences in the CISSE series of international joint e-conferences. CISSE is the World’s first Engineering / Computing and Systems Research E-Conference. CISSE 2005 was the first high-caliber Research Conference in the world to be completely conducted online in real-time via the internet. CISSE 2005 received 255 research paper submissions and the final program included 140 accepted papers, from more than 45 countries. CISSE 2006 received 691 research paper submissions and the final program included 390 accepted papers, from more than 70 countries.

The virtual conference will be conducted through the Internet using web-conferencing tools, made available by the conference. Authors will be presenting their PowerPoint, audio or video presentations using web-conferencing tools without the need for travel. Conference sessions will be broadcast to all the conference participants, where session participants can interact with the presenter during the presentation and (or) during the Q&A slot that follows the presentation. This international conference will be held entirely on-line. The accepted and presented papers will be made available and sent to the authors after the conference both on a DVD (including all papers, PowerPoint presentations and audio presentations) and as a book publication. Springer, the official publisher for CISSE, published the 2005 proceedings in 2 books and the CISSE 2006 proceedings in four books.

Call for Papers

Paper submission Deadline: October 5th, 2007
Notification of Acceptance: November 2nd, 2007
Final Manuscript and Registration: November 23rd, 2007

Accepted papers must be presented in the virtual conference by one of the authors. To submit your paper, visit www.cisse2007online.org. The topics covered by the Third International Conference on Systems, Computing Sciences and Software Engineering (SCSS 07) include but are not limited to the following:


Prospective authors are invited to submit full papers electronically in Microsoft Word format through the website of the conference at http://www.cisse2007online.org.

Accepted papers must be presented in the virtual conference by one of the authors. To submit your paper, visit http://www.cisse2007online.org