Solar Electric, or Photovoltaic (PV), technology holds tremendous potential for improving our energy supply and infrastructure in the twenty-first century. The ability of PV systems to generate electricity safely and silently with zero emissions and minimal maintenance over a twenty-five year life span can provide numerous environmental, practical, and financial benefits.

Additionally, on-site PV generation holds great potential for developing distributed generation resources, alleviating the need for costly upgrades to transmission and distribution infrastructure, while making the grid more robust in times of peak demand.

Tuesday, April 15, 2008
7:00 pm - 8:00 pm
(Refreshments at 6:30 PM)
ALL ARE INVITED

Location: Polytechnic University, Westchester Campus, 40 Saw Mill River Road, Hawthorne, NY 10532
For details & directions see IEEE Tappan Zee Subsection website http://www.ewh.ieee.org/r1/new_york/tz/
The IEEE Monitor

Postmaster: Send address changes and returns to the IEEE MONITOR, c/o Membership services, IEEE Service Center, PO Box 1331, Piscataway, NJ 08855 - (ISSN 0164-9205) Please note, the Editor cannot change/remove addresses.

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.

Published monthly, except for June, July and August, by the New York Section of the Institute of Electrical and Electronics Engineers, Inc., IEEE Corporate Office, 3 Park Avenue, 17th Floor, New York, NY 10016-5997. All communications concerning the NY IEEE MONITOR should be addressed to:

NY IEEE MONITOR
Marlen K. Waaijer
455 Beach 37 Street
Far Rockaway NY 11691
Phone: (718) 868-3219
E-mail: nymonitor@ieee.org

Annual subscription: $4.00 per member per year (included in annual dues) for each member of the New York Sections: $10.00 per year for non-IEEE members. Responsibility for contents of articles, papers, abstracts, etc. published herein rests entirely with the authors, not the editor. Publication committee, IEEE or its members. Periodicals Postage Paid at New York, NY and additional mailing offices.

ADVERTISING POLICY

MATERIAL FORMAT
Ads are preferred in black and white digital format. File types acceptable are high resolution .png, .jpg, and .pdf. Composition and assembly to advertiser’s layout available at nominal charge. Submit copy and layout for quote.

SPECIFICATIONS AND PRICING
Publication trim size is 8 1/2” x 11”; page image size is 7.0” x 9.25”; publication is black and white 2 column format.

Display advertising space is available in full and fractional page sizes. Refer to table below for specific measurements and pricing. To qualify for frequency discounts, advertiser must furnish publisher with a schedule of insertion dates. Schedule may be changed by notifying publisher prior to regular deadline date.

COMMISSION

10% commission allowed to all recognized ad agencies providing payment is received by due date. All ads invoiced on publication closing date. Full payment due 10 days after issue date. Rendered invoice to ad agency does not relieve advertiser in case agency default. For more information, email to: nymonitor@ieee.org

All advertising is subject to the publisher’s approval. Advertisers and their advertising agencies assume all liability for all content including text, illustrations, sketches, labels, trademarks, etc., of all advertising submitted for publishing, and also assume responsibility for any claims arising against the publisher.

<table>
<thead>
<tr>
<th>Type</th>
<th>Size w/h</th>
<th>Per issue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full page</td>
<td>7.0” x 9.25”</td>
<td>$630</td>
</tr>
<tr>
<td>2/3 page</td>
<td>7.0” x 6.00”</td>
<td>$490</td>
</tr>
<tr>
<td>1/2 page horizontal or vertical</td>
<td>7.0” x 4.25” or 3.5” x 9.25”</td>
<td>$395</td>
</tr>
<tr>
<td>1/3 page horizontal or vertical</td>
<td>7.0” x 3.0” or 2.25” x 9.25”</td>
<td>$280</td>
</tr>
<tr>
<td>1/4 Page</td>
<td>3.5” x 4.5”</td>
<td>$225</td>
</tr>
<tr>
<td>Business Card</td>
<td>3.2” x 2.0”</td>
<td>$70</td>
</tr>
<tr>
<td>Column Inch</td>
<td>3.5” x 1.0”</td>
<td>$35</td>
</tr>
<tr>
<td>Full back page</td>
<td>7.0” x 9.25”</td>
<td>$755</td>
</tr>
<tr>
<td>Full Inside back page</td>
<td>7.0” x 9.25”</td>
<td>$695</td>
</tr>
</tbody>
</table>

5% discount for 5 issues, 10% discount for 9 issues

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/R.S.V.P requirement and instructions
- CEU/PDUs credits & cost information (if applicable)
- Refreshments
- Society/group website location for further information
- E-mail information to: nymonitor@ieee.org

Submission deadlines

<table>
<thead>
<tr>
<th>Issue</th>
<th>Deadline</th>
</tr>
</thead>
<tbody>
<tr>
<td>May</td>
<td>March 24, 2008</td>
</tr>
<tr>
<td>September</td>
<td>July 18, 2008</td>
</tr>
<tr>
<td>October</td>
<td>August 18, 2008</td>
</tr>
<tr>
<td>November</td>
<td>September 18, 2008</td>
</tr>
<tr>
<td>December</td>
<td>October 20, 2008</td>
</tr>
</tbody>
</table>

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 cover: The Tappan Zee Subsection is the most active of all NY Chapters or Affiliate groups and thus they have earned a spot on the front cover.
Notes from the Editor

After the May issue we will have a three-month hiatus and that gives us some time to rethink the content of the NY Monitor. You can help us fulfill our mission by letting us know what you would like to read about. Important as the Calendar of Events and the meeting posters are, we would like to know what other information would be useful to you.

For example, in my quest for interesting and informative articles for the newsletter, I would like to solicit your participation in the following project. I am currently reading a reference book on Open Source Software (OSS) and I am interested in hearing from people who are now, or have been in the past, a member of an OSS project.

• If you are or were a member of an OSS production project or community, what is or was your involvement or role?
• Do you, or does the company you work for, use OSS software and if so which software?
• If you were involved in the past, but are not currently, what made you give up OSS?

If there is enough interest we can devote a whole issue to the topic. What other items are there that we as a technical community can explore? It is difficult to serve such a dispersed community, but there have to be issues that can bridge the span of chapters and societies that make up the NY Section. We look forward to your response.

Once again I want to thank Camille and Jean for their help in getting this issue out the door in time and with as few errors as possible. We look forward to hearing from you and implementing your suggestions in future issues.▲Marlen (marlen.k.waaijer@ieee.org)

Staff Bookmarks

In this corner we share—from time to time—some of our favorite websites. If you have one that you think is of interest, relevant, or just plain good, send yours to nymonitor@ieee.org

www.ted.org and www.tedprize.org

TED stands for technology, entertainment and design, and undoubtedly many of you are already aware of this site. On Thursday, February 28, I watched the presentation of the 2008 TED award winners via a live webcast. The TED prize site is a showcase for the winners of the TED prize which “is awarded annually to three exceptional individuals who each receive $100,000 and, much more important, the granting of ‘One Wish to Change the World’.” It is a great place to get inspiration for things that we can start in our own backyard.▲#

Table of Contents

Tappanzee Subsection poster - - - - - - - - - - - - - - cover page
Masthead & Submission Guidelines - - - - - - - - - 2
Calendar of Events - - - - - - - - - - - - - - - - - 3
Table of Contents - - - - - - - - - - - - - - - - - - 3
Notes from the Editor - - - - - - - - - - - - - - - - 3
Staff Bookmarks - - - - - - - - - - - - - - - - - - 3
Message from the 2008 NY Section Chair - - - - - - - 4
Future City Competition Reports - - - - - - - - - 5
NY Section—IEEE Awardees - - - - - - - - - - - - 6
LiSAT 2008 Poster - - - - - - - - - - - - - - - - - 7
Closed Captioning of TV Broadcast poster - - - - - - - 8

www.ieee.org/nymonitor/
CHAIR’S COLUMN
By David Weiss

The month of February has been a very active one for the NY Section. First and foremost was our annual Awards Dinner Dance on February 9. This blast was attended by 300 people who helped honor:
- Eight newly-minted IEEE Fellows, and
- Seven recipients of Region 1 Awards;
In addition, the following awards were presented:
- The NY Section distinguished Service Award,
- Engineer Of The Year bestowed by Women in Engineering, Power Engineering Society, and Vehicular Transportation Society, and
- Friend of the IEEE and Appreciation awards.
See page 6 for a list of all the awards recipients.
Special thanks for arranging the gala go to its Co-Chairs William Perlman and Ralph Tapino and to these supporters: Alstom, Con Edison, General Electric, Graphite Metallizing, IBM, Kawasaki Rail Car, LTK Engineering Services, Mass Electric Construction, NYC Transit, Polytechnic University, Siemens AG, and Urban Engineers of New York.

That Saturday started early for me as I attended the Region 1 Winter Meeting starting at 7 that morning. Key points covered were:
- Initiatives to improve the organization and management of Sections are in the offing. There will be a renewed attention to goals and member benefits. If you have any thoughts on this, write me at daweiss@ieee.org subject: membership advantages.
- The IEEE has about 370,000 members and dues accounts for about 20% of its revenues. While the IEEE is nothing without members it will be paying more attention to the sources of the other 80% of its revenues. Accordingly, Region 1 has just established an Industrial Relations Coordinator, Ashutosh Dutta. The NY Section will appoint a representative to his council. The group’s charge is to develop the case for how the IEEE benefits employers and why their support is deserved. For example, the IEEE is an important source for training, technical materials, and it provides recognition for employee achievements.
- The Annual Meeting of PACE will be in Indianapolis April 25 – 27. The theme is Green Engineering: A Push Toward Sustainability. Check their website: www.ieeeusa.org/calendar/conferences/2008annualmeeting/
- The IEEE has a new Conference Coordinator, John Conrad. One of our Section’s strategies is to work with national and international conferences in our area and to arrange networking receptions for students and recent grads. We will be working with the Conference Coordinator on the development of our Energy Independence initiative.
That was it for the Region 1 meeting as I had to race home to dress for the Awards Dinner.

Next up was the Engineers Week Celebration at Polytechnic University, on February 13, sponsored by The Metropolitan Engineering Societies Council. After a delicious dinner, Leslie E. Robertson, P.E., D.Eng. gave a very interesting talk on “TALL BUILDINGS: Yesterday, Today, and Tomorrow.” There’s some amazing stuff going on.

Finally, on March 3rd I was privileged to attend the inaugural meeting of our newest chapter. The Solid State Circuits Society and Electron Devices Society established a joint chapter, SSCS/EDS. Ioannis (John) Kymissis, Assistant Professor of Electrical Engineering at Columbia University, is the Chair. They are off to a great start. In addition to my words about the contribution of the NY Section, Professor Jan Van der Spiegel, Chapter Coordinator for SSCS, came from the University of Pennsylvania and Professor Jun Liou, Treasurer of the EDS, came from the University of Central Florida to add to the festivities. About 40 attendees were engaged by Professor Jan M. Rabaey, and Donald O. Pederson, Distinguished Professor at the University of California, Berkeley, on “Scaling the Power Wall”; and by Professor Liou on “Advanced Electrostatic Discharge.”

Last, the IEEE has approved the NY Section’s proposal for an IEEE Milestone in Electrical Engineering and Computing for the New Yorker Hotel with the following citation: “Largest Private (DC) Generating Plant in the U.S.A., 1929. The Direct Current (dc) generating plant installed at the New Yorker Hotel in 1929, capable of supplying electric power sufficient for a city of 35,000 people, was the largest private generating plant in the U.S.A….” Our Historian, Mel Olken, will be working with the New Yorker to arrange a ceremony.

So we’ve been keeping busy, but it’s not too late to contact me regarding interest in our Energy Independence Initiative. ▲

David Weiss (daweiss@ ieee.org)
On January 19, 2008, the Future City Competition took place on the campus of Polytechnic University. Every year, young innovative minds are given an opportunity to showcase their talent by constructing a futuristic city model and by using engineering concepts to resolve social problems. This year’s theme was “How nanotechnology will monitor the city’s structures and systems to keep its infrastructure healthy”. Thirty-three teams of combined seventh and eighth graders, from eighteen different junior and middle schools from the New York Metropolitan area, participated. (JR)

**FUTURE CITY COMPETITION**

By Pedro Perez-Cabezas

---

Dome city, designed by Kevin Ha, Rene Irizarry, and Jaime Roa, placed 4th in the New York Region Future City competition. The mission of Dome City is to ensure opportunity and entertainment for everyone living in the city. Nano-sensors were the topic of this competition. Dome city’s commercial buildings contain nano-sensors that detect heat and smoke and send automatic alarms to the fire station in the event of a fire. Residents know that education is the cornerstone of the advanced technology that is so important to the continued success of Dome City. As its name indicates, the Dome City skyline is dominated by a large dome-shaped structure, visible from everywhere in the city. One of the functions of the dome is to transmit communication signals and wireless internet services throughout the city. Everyone in the city has access to free internet service, and this is the primary method for both business and personal communication. Preserving the health and beauty of the nearby forest and lake is important to the citizens of Dome City, and all aspects of life in the city reflect the citizens’ concerns about being eco-friendly. Power to the city is provided by solar power plants that collect the sun’s energy, amplify it through a conversion process invented by a team of university professors and engineers, and transmit it to collectors in the dome. The transportation network utilizes non-polluting hydrogen powered hovercrafts and amphibious vehicles. Trains which transport supplies to and from agricultural areas work on a magnetic levitation system. Schools and colleges are located conveniently around the city. Dome City is a haven for tourists and residents. Parks are located throughout the city, and there is a world-famous resort near the shores of the lake. Information about cultural and sporting events, lectures that may be of interest to the public, and a variety of other information about recreational opportunities is updated daily and available on the city email network. The beauty and economic vitality of Dome City make it one of the best places in the world to live. Dome city was founded by Mrs. Dome whose statue serves as a figurehead for truth, justice, and eco-friendly development. (to be continued)

Pedro Perez-Cabezas is an IEEE member and Con Edison employee. He is the engineering mentor for the Future City competition at the Michelangelo Middle School 144 in the Bronx.

**JUDGING FUTURE CITY COMPETITION**

By Konal Kumar and Patrick Li (GOLD)

Four of us, Jignasa Ray, Jithendra Yogarasa, and we volunteered as model and presentation judges representing the IEEE Graduates Of the Last Decade (GOLD). We were amazed by the innovative ideas, creative thinking, and hard work that went into these projects. As engineers, we can say with confidence that the future looks very bright for these students.

This year there were numerous projects on display demonstrating the diverse engineering use of nanotechnology. The ideas ranged from teleportation transportation to sensitive detector sensors and even a cure-all-disease vaccine. Add the students’ technical knowledge to their imagination and we have a formula of possible solutions to many real world problems.

We were impressed by the oral presentation given by the team Wincing Days. Besides the design and writing involved in the projects, the importance of teamwork was not left out. “Before working on this project, we didn’t know each other very well,” says Olivia Carroll, member of team Crocog. “Now, we have become closer friends.”

By 4:00 PM late afternoon, the long awaited results were in. Team Maroga from Islip Middle School placed first which included team members – Gabby Rocco, Robert Rotolo, and Madison Schaefer. Subsequently placing second was team Wincing Days from Phillips Schuyler I.S. 383. A number of special awards included: Best Communications Society, sponsored by the IEEE, Most Creative Public Transit, sponsored by the MTA – NYC Transit, and Most Healthy Community, sponsored by Consolidated Edison, among others.

---
NY SECTION DISTINGUISHED SERVICE AWARD
WARNER JOHNSTON – ABC
For continued distinguished Service to the Section

WOMEN IN ENGINEERING – ENGINEER OF THE YEAR
DR. WENLI HUANG – U.S. MILITARY ACADEMY
In recognition of her outstanding technical and service contributions to the engineering profession and promotion of women in the science and technology disciplines

POWER ENGINEERING SOCIETY – ENGINEER OF THE YEAR
PAUL SARTORI – CON. EDISON CO.
For Outstanding Leadership and Contributions in the Design, Operation, Performance, Reliability of Electric Power Systems, and in Professional Activities for the IEEE, PES & IAS

PES CHAPTER– OUTSTANDING ENGINEER
JOHN MICHELEN – GRAPHITE METALLIZING CORP.
For Outstanding Leadership and Contributions in the Design, Operation, Performance, Reliability of Custom Bearings, and in Professional Activities for the IEEE, PES & IAS

VEHICULAR TRANSPORTATION SOCIETY – ENGINEER OF THE YEAR
ALEX GUTMAN – LTK ENGINEERING SERVICES
For his dedication to excellence in the design and application of vehicular technology

FRIEND OF IEEE AWARD
URBAN ENGINEERS OF NY
For actively supporting the IEEE Tappan Zee Subsection with its Technical & Professional Meetings

AWARD OF APPRECIATION
ROBERT GOMEZ – NYC TRANSIT AUTHORITY
In Recognition of Support and Service to the IEEE New York Section

HONORED FELLOWS
DR. ZHONG-PING JIANG – POLYTECHNIC UNIVERSITY
For contributions to nonlinear control theory and under-actuated mechanical systems

DR. JEN-YAO CHUNG – IBM
For contributions to the application of electronic business and web-based information systems

DR. MICHAEL GSCHWIND – IBM
For contributions to high performance computer architecture and compilation technology

DR. GEORGE CHIU - IBM
For leadership in supercomputer technology

DR. CHANDRASEKHAR NARAYANASWAMI – IBM
For contributions to pervasive computing systems

Dr. DEBANJAN SAHA - IBM
For contributions to traffic management and intelligent network control planes

PROF. KEN SHEPARD – COLUMBIA UNIVERSITY
For contributions to computer aided design of digital integrated circuits

PROF. XIAODONG WANG – COLUMBIA UNIVERSITY
For contributions to signal processing for wireless communications

REGION 1 AWARDS
DR. CARLOS M. CORDEIRO – INTEL CORP.
For Technological Innovation (Industry or Government) Award

STANLEY KAROLY – NYC TRANSIT AUTH.
For Managerial Excellence in an Engineering Organization

DR. MARY Y. LANZEROTTI – IBM
For Technological Innovation (Industry or Government) Award

ROBERT PELLEGRINO – CON. EDISON CO.
For Outstanding Support for the Mission of the IEEE, RAB, Region 1 and Section

WILLIAM PERLMAN
For Outstanding Support for the Mission of the IEEE, RAB, Region 1 and Section

ANDY WOO – CON. EDISON CO.
For Technological Innovation (Industry or Government) Award
LISAT2008 Presentations


LISAT2008 Organizing Committee

CONFERENCE CHAIR: Charles Feheley, Ford Institute | chfreheley@ieee.org | CONFERENCE VICE CHAIR: Edsari Beheshti, NYIT
HONORARY CONFERENCE CHAIR: Joseph J. Satta, Telecommunications Corporation
TECHNICAL PROGRAM Co-CHAIRS: Dave Aascheider, Ethno-Group; Dan Rogers, Telecommunications; Jesse Taub, Ind. Consultant
PUBLICITY and EXHIBITS CHAIR: Fred Kruger, Ind. Consultant
SECRETARY: Brian Quinn, Verizon
FAUCIES CHAIR: John Finn, Farmingdale State
CONFERENCE SPONSOR Executive Officers: Region 1 Director Howard Michel; Long Island Section Chair Bill Centaro, Telecommunications
CLOSED CAPTIONING OF TV BROADCAST
Sponsored by
WIE and the NY Chapter for Broadcast Technology

I. NTSC Standards
Wednesday, April 2, 2008
6:00 pm – 8:00 pm

II. ATSC Standard
Wednesday May 14, 2008
6:00 pm – 8:00 pm

Closed Captioning is the method used in North America since the late 70’s to bring to benefits of the television sound track to the deaf community. Where did it come from? How does it work? What are its limits? Initially Closed Captioning was developed for analog television transmission. However, the advent of Advanced Digital Television required the development of a new standard known as Advanced Closed Captioning. What are its improvements? The standards that document Closed Captioning, for which ABC, CEA and PBS shared a technical Emmy in 2005, will be explained. The differences implemented for Advanced Closed Captioning and how it builds on Closed Captioning will be discussed. The technology will be presented in two parts, with the first lecture concentrating on Closed Captioning as documented in CEA-608-D for the NTSC standard analog television transmission. The second lecture will deal with Advanced Closed Captioning for the ATSC standard on digital transmission. Note that concepts embodied in Advanced Closed Captioning are based on those in Closed Captioning, so that a grasp of the material in first lecture is needed to fully appreciate the second lecture.

Warner W. Johnston - Manager Television Network Transmission, ABC Television - received his BA degree from Shimer College (now associated with the Illinois Institute of Technology -IIT) in 1973. He studied Electrical Engineering at IIT and has done graduate studies at New York University, Polytechnic University and George Washington University. Currently he represents ABC Television at the ANSI-accredited Consumer Electronics Association Standards Development Organization, for the development of standards in the Consumer Electronics areas. He chairs several working groups within this SDO including those on Component Analog Television Interfaces, Regional Rating Tables, Document Maintenance and both Analog and Digital Closed Captioning.

Warner chaired the CEA committee, which In 2005 shared a technical Emmy for Standards Development of Closed Captioning with ABC and PBS. He has worked with ATIS T1, SMPTE, SCTE - all ANSI accredited SDOs, and with ATSC S8 and S13 on the development of A53, A65 and the A90 series of standards. Previously he was with RKO General (WGMS - Washington DC, WXLO - New York City, chief WAXY- Fort Lauderdale) 1972-73, and with Automatic Electric Labs 1973-1974.

COST: This talk is free to the public. IEEE Members, Students and Non-Members are welcome. For CEU credits, a fee of $15 per lecture is payable prior to the lecture.

RSVP Required: By EOB March 31 and May 12, respectively, to Alexandra-WIENY@ieee.org

LOCATION: MTA Building 2 Broadway @ Bowling Green, New York, closest trains: 4 & 5, other nearby trains: 1, W, J & Z. No walk-ins allowed for security reasons!