IEEE

Advancing Technology for Humanity

New York Monitor

A PUBLICATION OF THE IEEE NEW YORK SECTION

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The Louis Pasteur Middle School 67 in Little Neck, Queens, NYC
The winner of the 2015 Future City Competition with its 'Future Little Neck' entry
The IEEE NY Section is a proud supporter of the competition [see inside for report]

Engineers Week Celebration coming up, 19 February (details inside)

Have you reserved your place at our Annual Awards Dinner and Dance ?
If not, please do so now … the reservation form is attached

PRINCIPAL OFFICERS OF THE NEW YORK SECTION FOR 2015

Section chair: Neil Weisenfeld, SM

Vice chair Chapter Oprations: Wilson Milian, SM

Vice chair Section Activities: Vacant

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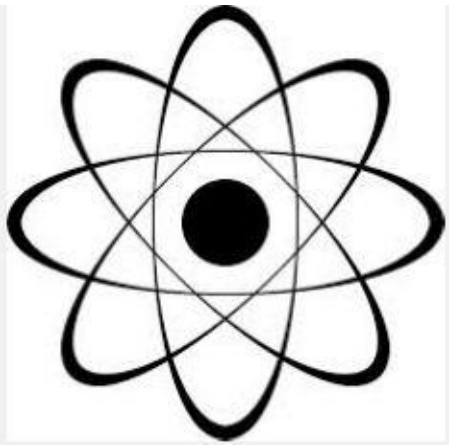
NY Monitor Editor: Amitava Dutta-Roy, LF

TOPICS COVERED IN THIS ISSUE



IEEE NY Section's announcement as it appeared in the 2015 Future City Competition program book

It was the National Engineers Week Foundation—now known as DiscoverE—that in 1992 started the Future City competition. Its objective was to encourage students in sixth, seventh, and eighth grades to participate in cross-curricular and transformative projects. The expectation of the creators of the competition was that the project-based learning process would:

- "Strengthen their 21st century skills—problem-solving, teamwork, citizenship, public speaking, and project management;
- Build a meaningful relationship with a STEM mentor;
- Explore engineering, its various disciplines, and potential engineering careers;
- Learn about the engineering design process; and
- Understand the value of studying math, science, engineering, and technology."

It takes hard work on the part of the students, their teachers, mentors and parents during four months — September through December — to ready the projects and physical models to face their competitors and, well, the judges. As many youngsters of today are fond of video game players the Future City, the competition takes advantage of their natural propensity for computer games. The competition thus begins with a computer model of a city created with the SimCity4™ computer game software.

Through this exercise the students learn the logistics necessary for creating and managing a realizable city. The second, that is the most stringent exercise, involves a specific topic on which the students must concentrate for their research work as required by the competition's prescribed rules. Finally, they have to build a physical model of the city of their design.

A press release from DiscoverE highlights the salient points of the 2014-2015 Future City competition:

- More than 40,000 students from 1,350 middle schools all over the country have registered to participate in the regional competitions. Thirty seven regional competitions were scheduled for January, 2015. Five of those are from New York State, New York (Albany), New York (City) and New York (Western). All of them happen to be inside our IEEE R 1 in addition to the completion in New England. The winning teams from each qualifying regional competitions will be awarded with expenses-paid trips to participate in the Future City National Finals that will be held at Capitol Hilton, Washington, DC during five days: 14 – 18 February, 2015
- The Future City is a "science, technology, engineering and mathematics" (STEM) initiative that is now able to reaches girls and underserved students. Girls constitute 46% of the participants and 33% of participating schools have more than 50% or more of their students enrolled in free lunch program

- DiscoverE, a consortium of several professional and technical societies, and some major US corporations support the Future City program
- Major funding for the national finals comes from Bechtel Corporation, Bentley Systems and Shell Oil Company. CH2M Hill, EA and PMIEF provide additional funding
- The competition rule requires that an educator and volunteer mentor advises student teams to research and design a solution to a city-wide challenge that *changes* every year. This year (2014-2015) that challenge has been "Feeding Future Cities" that requires the design of a futuristic urban farm environment that grows enough of one vegetable crop and one protein crop to feed its inhabitants. The participant students are thus strongly encouraged to research about urban agriculture and relevant issues such as aeroponic systems for rooftop farms, recycles gray water, and the farm-to-table delivery to brainstorm solutions for tomorrow
- Each regional competition is judged by a panel of volunteer judges from participating engineering communities evaluate the entries along five deliverables:

  - **A virtual City**: design of a virtual city using SimCity4™ software
  - **An essay:** A 1,000-word essay outlining solutions to the feeding Future Cities challenge
  - **A City Narrative:** A description of the the team's city of the future
  - **A Model:** With a budget of only $100 each team builds a model of its city to scale. The model must have at least one moving part made with mostly recycles materials
  - **A presentation:** Within *seven minutes* a team must impress the judges showcasing what it has learned and what its city is all about
- Prizes at the National Finals:
  - Top prize awarded by Bentley Systems is $7,500 for the organization's STEM program plus a trip to US Space Camp in Huntsville, Alabama for the official team members
  - The First runner-up team is awarded $5,000 by the National Society of Professional Engineers (NSPE) for the organization's STEM program
  - The IEEE-USA provides $2,000 to the second runner-up for the organization's STEM program
  - The fourth and fifth placed teams will receive an Honorable Mention and

$750 for their organizations' STEM programs provided by Ohio University and CH2M Hill respectively

▪

The IEEE NY Section was represented by David Horn and Kim Smith as volunteer judges at the regional (NYC) competition in which Louis Pasteur Middle School 67 in Little Nick, Queens, NYC was awarded the overall top prize. The entire coordination of the event was the responsibility of Ms Karen C Armfield, PE, Ass. VP of Geotechnical Management-NY, AEMCO. We congratulate Ms Armfield for doing such a marvelous job! ♦

Kim Smith judging an entry

Competitors, Karen Armfield and the Monitor editor

Ambition and learning

Did you know that you would win?

One more pics of Future Little Neck!

David Horn of the IEEE NY Section as a judge

Keep it up

Afternoon break? Where is everybody?

Sony Atrium was an excellent venue

Sony Atrium

Karen Armfield, coordinator of the event

Oops! David Horn again

Kim Smith of the IEEE NY Section as a judge

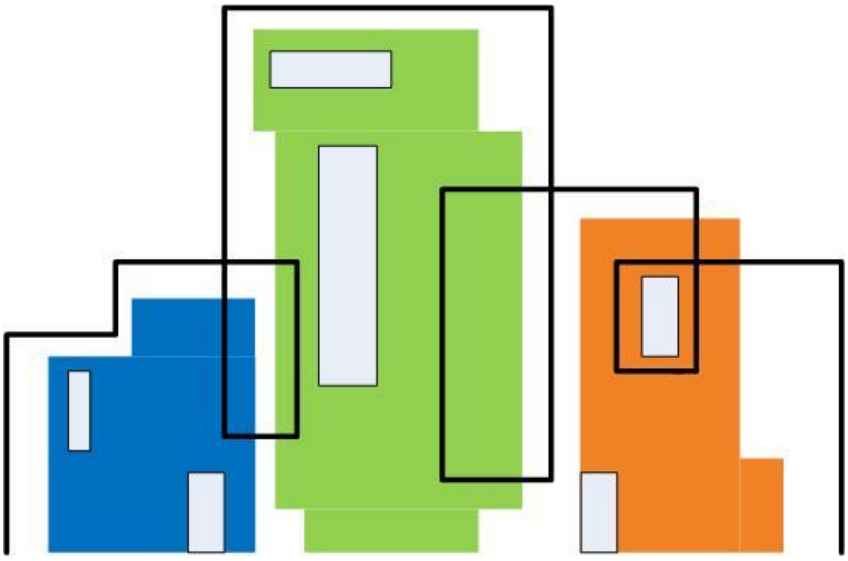
Three hopefuls!

David Horn interrogating!

A close view of the wining team's model

A mentor, students and Karen Armfield

Goodbye until next year!



NATIONAL ENGINEERING WEEK

The National Engineering Week (aka EWeek) was conceived in 1951 by the National Society of Professional Engineers (NSPE) to maintain and expand a diverse engineering workforce by augmenting the understanding of engineering and technology and thus to motivate them to pursue careers in engineering.

After more than half a century some 70+ engineering, education and cultural societies and 50+ corporations and government agencies join together in a formal coalition for the activities for the EWeek.

The EWeek is dedicated to raising public awareness of engineers' positive contributions to quality of life; EWeek promotes recognition among parents, teachers, and students of the importance of a technical education and a high level of math, science, and technology literacy, and motivates youth, to pursue engineering careers in order to provide a diverse and vigorous engineering workforce. Each year, EWeek reaches thousands of schools, businesses, and community groups across the USA. This year the EWeek will be celebrated during the week of 22-28 February.

The NSPE through the non-profit DiscoverE (earlier known as National Engineering Week Foundation) offer many programs that encourage the young to study engineering. Some of these activities are:

- Engineers, how are you changing the conversation (encourages the engineers to communicate better and more effectively)
- Discover, let's make a difference (teaches engineers how to relate engineering and technology to the real benefits in life)
- Discover new faces (recognizing the impact of the work of young engineers on our society)
- Future City competition
- Discover Girl Day (introducing girls to engineering—this year the Day will be celebrated on 26 February)
- Discover Global Marathon (provides regional and global opportunities to women in engineering-9-11 March, 2015)
- Discover Engineering Family Day (to introduce children and their entire families to engineering through visits to technology museums)

To learn more about NSPE and programs offered by DiscoverE please visit:
http://www.nspe.org/resources/partners-and-state-societies/national-engineers-week#sthash.YrSIeobl.dpuf

METROPOLITAN ENGINEERING SOCIETIES COUNCIL (MESC)

In New York the Engineers Week is organized by the MESC, NY. This year is no exception. Engineers will be honored at an event on 19 February, at Rogers Hall, Room NYU-Poly, 116, 6 Metro Center Brooklyn, NY 11201. Registration begins at 5:00pm and a buffet dinner will be served at 6:00pm The main program will start at 7:00pm. Mr Wasyl Kinach, P.E., MESC Chair and the Representative from NYU-Poly will welcome the guests. The evening's keynote speaker: Mr Costas T. Lymberis,C.S.,NACE Int'l: Lifetime Member. The keynote address will be given by Dr. Philip Michael Tuts, Professor and Chair, Department of Physics, Columbia University, NY.

The topic of the address of Dr Tuts is "Engineering and Operation of the Large Hadron Collider, the largest instrument in the world." This collider is used to study sub-atomic particles. It is located near Geneva, Switzerland, more than 560 feet below ground, and traverses a path with a diameter of more than 16 miles. In 2013 this operation received a Nobel prize in Physics for confirming the existence of the Higgs Boson over which scientists had theorized for more than 30 years.

Entry to the lectures is free. There will be a charge of $50 for the dinner. The dinner requests must be made on or before 12 February, 2015. No "at the door" payment, please. The reservation form appears below:

February 19, 2015 ENGINEERS WEEK CELEBRATION
Fee Enclosed: _____ Phone #: _____
First Name: _____ Last Name: _____
Company: _____ Society: _____
Address:_____ E-Mail _____
City: _____ State: _____ Zip: _____
FOR ADDITIONAL INFORMATION, CONTACT WASYL KINACH, e-mail: info@mescnyc.org, Tel: (212) 669-2203.

Further information re MESC or the Engineers Week maybe had from Mr Michael Miller, LSM who is the representative of the NY Section at the MESC, NY. He can be reached at millerm@ieee.org.

This

year, our Annual Awards Dinner Dance (black tie optional) will be held in the beautiful Mercury Ballroom, located on the third level of the New York Hilton Midtown Hotel, 1335 Avenue of the Americas (between 53rd and 54th Streets), New York. This year's awardees include individuals from MTA's New York City Transit and IBM.

Festivities will begin at 6:00pm. Hot and cold hors d'oeuvres and cocktails will be served in the Rotunda- Mezzanine area on the third floor of the hotel. There surely we will have time enough to relax, get acquainted with new faces, and rekindle old familiarities.

A choice of either a succulent filet mignon, delicious salmon, or vegetarian entrée will pamper our palates. Each gourmet entrée will be accompanied by a soup, salad, and dessert. The presentation of the awards will take place after dinner and afterwards we can continue dancing. The last song will end at 11:00 pm. The NY Section is working with the Hilton to to set aside a block of rooms at a discounted rate for those guests that may want to spend that Saturday night in the hotel. Further information on room rates can be obtained from David Horn at the contact number noted below. Valet parking is available at the hotel (sorry, no discount!).

Tickets for the event may be obtained by completing the reservation form below and forwarding
it to Mr. Horn at the address listed below before January 28, 2015. Corporate supporters: Table
of 10 at $2500 (the NY Section is offering a free 1/2 page advertisement in its monthly publication The The 2015 IEEE NY Section Awards Dinner Dance honoring the Section's Monitor for supporters purchasing a full 10-person table). Individual tickets are also available at $250 for non-IEEE members. A special non-transferrable rate of $130 for each ticket is available to IEEE members. Note that this special rate is for the attending IEEE member and one guest only and an IEEE Member name and number must be provided below.
If you have any questions or need additional information, please contact: David Horn at (631) 5602309 or e-mail to <nysectionadd@yahoo.com>

TICKET RESERVATION FORM

Send form to: Mr. David Horn
129 Rosemont Avenue
Farmingville, NY 11738

Please indicate # of entrée selections:
Filet Mignon _____
Salmon _____
Vegetarian _____

Send tickets to:

Name: _____
Company: _____
Address: _____
City: _____ State _____ Zip _____
Telephone: _____ E-Mail: _____

IEEE Member Name and #: _____
No. of IEEE Member Tickets @ $130 per ticket: _____

Other Tickets:
No. of Tables @ $2,500 per table: _____
No. of Tickets @ $250 per ticket: _____

Total Amount Enclosed: $ _____

Make Check Payable to: New York Section, IEEE

FELLOWS AND AWARDEES HONORED AT THE ANNUAL AWARDS DINNER DANCE 2015

FELLOWS

- **Dr Francisco de Leon: For Contributions to Transformer Modeling for Electromagnetic Transient Studies**
- **Dr Ernest Fellepa: For Contributions to Ultrasound Imaging Medical Applications**
- **Dr Moti Yung: For Contributions to Cryptography**
- **Dr Jianying Hu: For Contributions to Pattern Recognition in Business and Health Analytics, and Document Analysis**
- **Dr Yuri Vlasov: For Contributions of Silicon-Integrated Nanophotonics**
- **Dr Mahesh Viswanathan: For Contributions to Ubiquitous Access to Cloud Computing and to Vehicular Speech**
- **Dr Murthy Devarakonda: For Contributions to Measurement-Based Analytics of Distributed Systems for Data Center**
- **Dr Deepnarayan Gupta: For Contributions to Superconductor Digital Radio-Frequency Receivers**

AWARDEES

AWARDS FROM THE IEEE REGION 1

MANAGERIAL EXCELLENCE AWARD

- **Mr Mark Bienstock: For Outstanding Leadership in Engineering Management of the Design and Construction of the State of the Art Train Communication and Real Time Passenger Information Systems – August 2014**

TECHNICAL EXCELLENCE AWARD:

- **Dr Jinjun Xiong: For Contributions to VLSI Circuits and Smart Energy Research – August 2014**

IEEE SOCIETY AWARDS

IEEE SYSTEMS, MAN, AND CYBERNETICS SOCIETY (SMCS): OUTSTANDING CHAPTER

- **NY SMC Chapter: For the Best SMC Chapter that has Consistently Shown Outstanding Leadership and Service to its Members**

POWER & ENERGY SOCIETY(PES)

- **Mr Patrick Dilillo: For outstanding contributions to the Power and Energy Industry and the High-Voltage Switchgear Standards Committee**

NEW YORK SECTION AWARD

FRIEND OF THE IEEE AWARD

- **MTA New York City Transit: For exemplary support of the IEEE NY Section and its core mission to foster technological innovation and excellence for the benefit of humanity**

NEW YORK SECTION CHAPTER AWARDS

POWER &ENERGY SOCIETY: OUTSTANDING ENGINEER AWARD

- **Mr William Montgomery: In Recognition of his Leadership and Meritorious Contributions to the Chapter**

WOMEN IN ENGINEERING (WIE) AFFINITY GROUP AWARDS

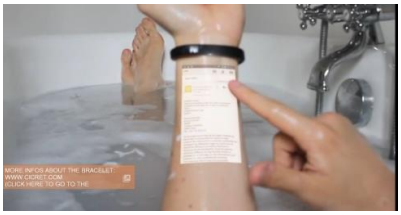
- To be decided

Remember

the technology that was used in smart boards? You could scribble anything on a whiteboard and your writings would appear on a computer Monitor? You could even write with colored felt markers. Sets of low-powered innocuous laser beams would track the movements of the pens on the board and would, by triangulation, determine the position of the pen and display them on a computer screen. The colored pens were bar-coded so that the software behind the scene knew exactly what color you were using. It was in mid-1990s and I wrote on the technology in computer-related a magazine. Now I don't even know if the companies who manufactured those smart boards let alone the folks who use them.

The other day my esteemed colleague Mr William Coyne and the chair of operations and bylaws committee at the IEEE New York Section sent me a link to a Web site that announced and demonstrated video clip of a wearable Cicret bracelet that reminded me of the smart boards of the past. The bracelet is made of a synthetic semi-flexible waterproof material. The screen or board is the skin of your own hand. It (presumably) receives signals from your mobile phone and projects the image of its screen on your arm. If you touch any of the projected icons eight low-powered harmless laser beams from the bracelet scan the movement of your finger and (again, I say, presumably) by a process of triangulation determine which icon you touched and the bracelet send signals back to the phone to execute the appropriate command. Voila! You get to do whatever your phone is capable of except (presumably) listening and emitting sounds. It is an Israeli invention. I congratulate the inventors for their ideas. The link to the Web site is: https://www.youtube.com/embed/9J7GpVQCfms . It certainly deserves your attention. Who knows if the bracelet may be available in this country before the next holiday and buying season and satisfy the insatiable desire of techhies! Check it out. ♦Amitava Dutta-Roy, Editor

Stills from the video clip from Cicret bracelet manufacturing



Tue, 3 February, 2015
6:00pm – 8:45pm
Denton
1221 Avenue of the Americas, New York

IoT Central: MeetUp Group on Internet of Things (IoT)

Supported by IoT Initiative of the IEEE Standards Association (SA)

Join the panel discussion which will explore the future of the Internet of Things (IoT). We'll discuss the players, geographies, growth and the opportunities. Our panelists include the following industry leaders and experts in IoT:

* Dan Ford, Executive Dir. & Chief Scientist for Mobility and IoT at Dell Research
* Ed Maguire, Managing Director and Senior Analyst at CLSA Americas,
* Allen Proithis, Founder & President of wot.io, and
*Mitchell Golner, Moderator

The fee for attending the event is:

$20 / person ; early bird, before Feb. 25
$30 / person ; Feb. 26 or later

All fees collected go to covering general IoT Central Meetup operational costs.♦

Thu, 5 February, 2015
Con Ed Building
5:00: Refreshments and networking
5:30pm-7:00pm: Presentation
4 Irving Place (at 14 Street East), New York
RSVP to Arnold Wong (wongar@coned.com
Please note that due to security restrictions no walk-ins will be allowed.

Sponsors: Power & Energy Society, Industrial Applications Society Chapters and Life Members Affinity Group of the IEEE NY Section

High Efficiency Shielded-Toroidal Transformers

Abstract: high Transformers (high-efficiency shielded toroidal transformers) are designed to help distribution network operators to save energy. These transformers have higher efficiency, greater over-load capability, and increased reliability compared to the current standard. A high-efficiency transformer is dry-type and does not require oil; thus, it is more environmentally friendly and is not subjected to catastrophic explosions. The product costs about the same as an oil-filled transformer. Thus, the final objective is to substitute oil-filled transformers with dry-type ones. The presentation will cover some of the issues that utilities are facing with oil-immersed transformers, the standard transformer manufacturing technologies, the new energy efficiency amendments, the objective of the toroidal transformers project, the technical problems solved and the future development of the technology.

Speaker: Saeed Jazebi received the PhD degree in electrical engineering from NYU Polytechnic School of Engineering in 2014 where he continues his research as a postdoctoral fellow with fields of interest including electromagnetic design, modeling and simulation of electrical machines and power system components, statistical pattern recognition applications in power engineering, power system protection, and power quality.♦

Thu, 19 February, 2015
5:30pm-8:45pm
Rogers Hall, NYU-Poly
Brooklyn, NY

Sponsor: Metropolitan Engineering Societies Council (MESC), NY

Engineers Week Celebration

For details please see the article featured earlier in this issue.

Tue, 24 February, 2015
Con Ed Building
5:00: Refreshments and networking
5:30pm-7:00pm: Presentation
4 Irving Place (at 14 Street East), New York
RSVP to Arnold Wong (wongar@coned.com
Please note that due to security restrictions no walk-ins will be allowed.

Sponsor: PES/IAS Chapters and LM Affinity Group of the IEEE NY Section

Flood Mitigation Control Lessons Learned & Future Design Options

This presentation will attempt to answer the following questions:

- What did we learn from Hurricane Sandy?
- What types of measures can be taken to improve controls flooding in the future?
- What types of design considerations should be taken when design for flood mitigation?
- How does an enclosure maintain its submersible rating?
- What options are available when designing to protect controls against flooding?

Speakers:

***Jamie Saxe**: currently a Municipal Business Development Manager for G.A. Fleet Associates and is currently managing the Hurricane Sandy relief efforts for the municipal group with specific design interaction, leadership response and project implementation with the NYDEP, Nassau County, Port Authority, New York Transit Authority, Westchester County, etc. Jamie's expertise includes engineered advanced control technology systems and SCADA network and communications

* **Richard J. Mullen**: as the Vice President of Fleet Pump & Service Group, he has worked at G.A. Fleet/Fleet Pump and Service for over 35 years. Additionally, Richie was an Electrician for 9 years. Rich's career at G.A. Fleet & Fleet Pump & Service has included field technical support, electrical engineering of electrical controls for pumping and heating equipment, design and manufacturing of rain water reclamation systems, dewatering systems, temporary pumping and domestic hot water systems and more.♦

Fri, 27 February, 2015
Long Island University,
Brooklyn Campus
Room HS 119,
1 University Plaza
Brooklyn, NY 11201-5372
(nearest subway R train DeKalb Avenue)

All are welcome

Sponsor: Systems, Man and Cybernetics Society Chapter, IEEE NY Section

Building Next Generation Physical Meet Digital

Abstract: In this talk trends of building next generation physical meets digital solution will be discussed. Relevant technologies will be addressed. Finally, examples and applications will be presented.

Speaker: Dr Hendrik F Hamann, Research Manager in the Physical Sciences Department at the IBM T J Watson Research Center, Yorktown Heights, NY. He received his PhD from the University of Goettingen in Germany. Dr. Hamann is an IBM Master Inventor and a member of the Institute of Electrical and Electronics Engineers (IEEE), the American Physical Society (APS), Optical Society of America (OSA), and the NY Academy of Sciences.

Sat, 28 February, 2015
6:00pm to 11:00pm
New York Midtown Hilton Hotel
1335, Avenue of the Americas, New York
(between 53rd and 54th Streets)

The IEEE New York Section celebrates
Annual Awards, Dinner and Dance
The new IEEE Fellows and Awardees Honore
Plus dinner and dance
Please see the details in the article in this issue♦

ADVERTISING IN THE NY MONITOR

The IEEE NY Monitor is published online monthly excepting in July and August. The target readers are IEEE members (4,000) who reside in New York City and vicinity. It is also downloaded by many of the 30,000+ members of the IEEE Region 1 that covers 22 Sections of the IEEE located in the northeastern United States. Please submit camera-ready jpg images. For further information about advertisements in the NY Monitor please contact a.dutta-roy@ieee.org. Thank you!

Adverisement rates per insertion	
Quarter page	$150
Half page	$200
Full page	$250

This is the end of this month's Monitor. Thank you for reading it. We would appreciate your comments that will enable us to improve our offering.