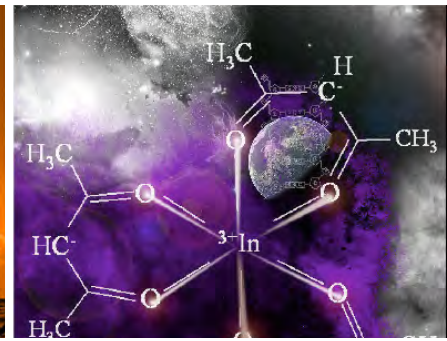
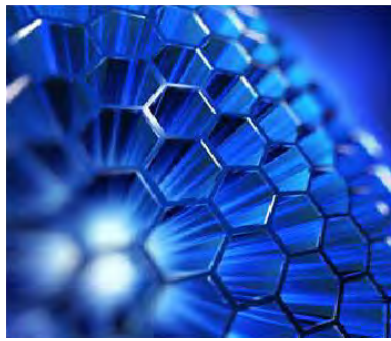
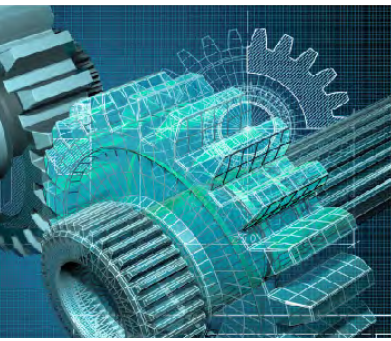




THE PULSE

JUNE 2016

OF LONG ISLAND



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One of the major challenges IEEE has been facing worldwide is the declining memberships. The Long Island Section has formed a task force committee to identify the issues and potential solutions in this regard. It is observed that IEEE is struggling to publicize its activities and benefits to the Members. The employers seem to have no interest in encouraging their Engineers to get involved to IEEE. The Section has had a difficult time over past years in drawing attentions of industries in the region to its technical seminars and conferences, whereas such activities are offered almost free of cost which could enhance their Engineers' professional expertise significantly. I would invite your recommendations as well as active participation in the initiative taken by the Section to enhance the IEEE membership.

The Section continues to offering technical seminars even over the summer, where highly recognized experts and researchers are giving lectures on state-of-the-art topics. Hope you would take the opportunity to attend these activities for your professional development purposes.

The Section finally launched its new website at www.ieee.li. In addition to the new graphic look, it has more information and articles than before. I would appreciate your visiting the website and letting us know your comments for the future developments.

I have been invited to attend the awards programs of some other Sections in the southeast area of IEEE Region 1. Though I could not attend all of them due to time conflict, I would take this opportunity to acknowledge the kinds invitations of the METSAC Sections. Hope we can collaborate in fulfilling the mission of the IEEE.

While the weather is getting better for outdoor activities and vacations, the Section will still continue providing technical support, planning and organizing conferences to be held in Fall and carrying on routine activities. As always, we would welcome your comment and recommendation.

Wish you have a wonderful summer with your family and friends.

Thanking you,

M. Nazrul Islam, PhD

Chair, IEEE Long Island Section

chair@ieee.li



THE PULSE

JUNE 2016

OF LONG ISLAND

The Pulse of Long Island is produced by the **Long Island Section** of the **Institute of Electrical & Electronic Engineers**. It is published monthly except during July & August.

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LET YOUR VOICE HEARD

The Pulse of Long Island is a newsletter for the members of the Long Island IEEE Section. You can let your voice heard by writing to the Editor. How to bring more value to our members? Interesting new technology, or a project? An issue of interest to members of the IEEE Long Island, Long Island engineers and computer professionals, or Long Island technical community at large? Write to the **Pulse**. Let your letter be read, and your voice heard.



HOW TO CONTRIBUTE:

Send your letters or articles via email to pulse@ieee.li.

If selected for publication, the letter or article will be edited before being published.

CONTRIBUTION DEADLINE:

20th of a month for the next month edition.

CONTRIBUTIONS FROM LONG ISLAND TECHNICAL & ENGINEERING COMPANIES:

Publish your technology-related **press release** (up to one page) at no cost. Please send the press release as a PDF file attached to email to pulse@ieee.li, addressed to the Editor, with a Subject line "Pulse -PR" followed by your company name, and the responsible contact person's name, email and phone number in the email body.

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THE IEEE LONG ISLAND SECTION WEBSITE

The IEEE LI Section website is regularly updated to reflect recent section activity and upcoming events. Each Society and Affinity Group has a dedicated page that describes their function and includes contact information.

Visit our site at ieee.li

CONSULTANT'S NETWORK OF LONG ISLAND

The Consultant's Network of Long Island maintains a referral service of engineering, computer, managerial and technical professionals. For more information, please visit their website at:

www.consult-li.com

MEMBERSHIP DEVELOPMENT

For more information on membership with the Long Island Section of the IEEE, e-mail M. Nazrul Islam at: membership@ieee.li



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The Long Island Section of IEEE has 17 Chapters. Each Chapter is a technical subunit of the Long Island Section, associated with an IEEE Society. The Chapters, as well as the Section, are always welcoming volunteers. If you would like to help with any of the Long Island Chapter's steering groups, please do contact the relevant Chapter Chair, Vice Chair, or one of the Section officers.			 TECHNOLOGY AND ENGINEERING MANAGEMENT SOCIETY (TEMS) Chair: Brian Quinn Email: tmc@ieee.li

IEEE MEMBERSHIP BENEFITS

As an organization with 400,000 members worldwide, IEEE is also able to offer other benefits to its members, from insurance to other discounts. The insurance program offers excellent Life Insurance, Professional Liability (known as "errors and omissions") insurance, as well as medical and dental insurance.

Please consider sharing your IEEE experience with a colleague. No one knows the benefits of IEEE Membership better than you!! As a gift from IEEE, you have the option of receiving a piece of IEEE-USA merchandise if they successfully join. This is in addition to the monetary reward you earn from the Member-Get-A-Member program.

KNOWLEDGE

All IEEE members receive the award-winning *IEEE Spectrum* magazine - and exclusive access to IEEE Spectrum Online - plus online access to IEEE Potentials magazine. IEEE members have online access to the tables of contents and expanded abstracts from more than one million IEEE documents, along with full-text searching of the entire IEEE collection. Long Island IEEE members also receive advanced email notice of "*The Pulse of Long Island*" newsletter. IEEE members also receive exclusive member subscriptions rates on the journals, and discounts on the purchase of conference proceedings, standards, and books.

COMMUNITY

No matter where you live, IEEE is there, with more than 300 local IEEE sections (such as the Long Island section), 1,300 technical chapters, and 300 annual IEEE conferences worldwide. As a member, you'll have the opportunity to attend your local section or chapter meetings, volunteer for leadership positions, or attend a conference to meet industry leaders and practitioners, encounter the latest research, and present your papers to an international audience.

PROFESSION

IEEE career and employment resources offer excellent opportunities for IEEE members. Whether you are a job seeker, consultant or entrepreneur, the IEEE Job Site, Consultants Database, and career publications provide you the edge you need to succeed. IEEE also offers technical and professional online courses from the top universities and corporate, educational institutions at exclusive discounts for IEEE members.

NEW MEMBER WELCOME

THE LONG ISLAND SECTION WOULD LIKE TO WELCOME THE FOLLOWING NEW MEMBERS FOR 2016!

Bryan Charles Applebaum
William Andres Carmona
Angela Chacon
Lin Cui
Charles Dlhopsky
Lindsay Eller
Alyssa Gang
Ji He
Pedram Jahangiri
Evan Kearney
Sunil Kukreja
Chunyan Li
Maxime A Maurice
Ismail Mhaber
Bryan Douglas O'connor
Emmanuel M Panaligan
Daniel Picone
Daniel Arthur Pinto
Courtney Eugene Scott
Carlo Thompson
Patrick Smith



JUNE 2016

June 1, Wednesday
IEEE Consultants
Network of Long Island

LIU-Post Campus,
 Lorber Hall, 720,
 Northern Blvd.,
 Brookville, LI
 7:00 PM to 9:30 PM

June 2, Thursday
Instrumentation and
Measurement Society Meeting

Telephonics, Farmingdale, LI
 6:00 PM - Refreshments
 6:30 PM - Lecture

June 15, Wednesday
AIAA / ASME Lecture
Sojourner: The First
Mars Rover

By Donna Shirley
 Spumante Restaurant
 East Meadow, LI

June 15, Wednesday
IEEE LI Circuits and Systems
Society (CAS)

Jitter Analysis, Basic
and Advanced

Telephonics, Farmingdale, LI
 6:00 - 6:35 PM - Pizza & Networking
 6:30 PM - 7:45 PM - Lecture

IEEE
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 today at www.ieee.org/jobs

JULY 2016

July 6, Wednesday
IEEE Consultants Network of Long Island

LIU-Post Campus, Lorber Hall, 720, Northern Blvd., Brookville, LI
 7:00 PM to 9:30 PM.

OUR
WEBSITE IS
HAS A
NEW LOOK!

Check out the
 redesigned IEEE
 Long Island
 Section
 Website at:
ieee.li.com

The screenshot displays the IEEE Long Island Section website. The top navigation bar includes links for HOME, THE PULSE OF LONG ISLAND, CALENDAR, SOCIETY CHAPTERS, AFFINITY GROUPS, COMMITTEES, ABOUT, MEMBERS, and CONTACT US. Below the navigation bar, there's a search bar and a section for 'LATEST NEWS' featuring the '2016 IEEE MIT Undergraduate Research Technology Conference'. The main content area is titled 'The Pulse of Long Island' and features a large article about the conference. To the right, there's a sidebar with 'REGULAR COLUMNS' (Chair's Messages, History), 'NEWS ARCHIVE' (with a month selector), and 'IMPRESSUM'. At the bottom, there's a grid of smaller articles and images, including 'HOT TOPIC, PULSE ARTICLE: 2016 IEEE Long Island Awards', 'PULSE ARTICLE: FIRST Robotics Long Island Regional Competition 2016', 'HOT TOPIC, PHOTO GALLERY: 2016 Awards Banquet and Photo Gallery', 'HOT TOPIC, PULSE ARTICLE: LISAT 2016', 'EMPLOYMENT (EAC), PULSE ARTICLE: Newsday Career Fair', 'BUSINESS RANCHISE: Franchise Workshop in Stony Brook', 'EMPLOYMENT (EAC), PULSE ARTICLE: Long Island job scene update', and 'CHAIR'S MESSAGE, PULSE ARTICLE: Chair's Message - February 2016'.



Long Island's Electrical and Electronic History

By Jesse Taub, IEEE Long Island Section Historian

We continue to peruse Pulse issues from 30 years ago starting with April 1986. The Section meeting for that month featured a lecture "A Demonstration of NMR Scanning" by Raymond Damadian, MD of Fonar. NMR is an acronym for nuclear magnetic resonance which was the phenomenon that was the basis of MRI. Dr. Damadian and his company were one of the earliest to market an MRI instrument. I recall being at that lecture and was duly impressed. Dr. Damadian some years later, made the newspapers for protesting his not winning the Nobel Prize. Credit for the original invention was given two professors from Stony Brook University. However, Dr. Damadian's work contributed in a major way towards making the MRI the reliable diagnostic imaging technique that we have all benefited from.

The Computer Society's lecture was "Digital Audio: Perspective" by David Smith of Editel. This was an era where digital communication was in the process of replacing analog and its benefits needed to be explained to engineers. We take for granted that almost all audio is now digitized by it was not yet the case then.

Our Section's AI Committee sponsored a talk on "Determining the Relevance of CUES; a New type of Decision Support" by Dr. Jeffrey Schwartz of Grumman. He described how a computer can be programmed to sift through data to make correct decisions.

The Section's MTT Society organized a one day symposium on "Hybrid to Monolithic and Something in Between". This was an era where monolithic microwave IC's were just beginning to be developed. There was still a case to be made for hybrid IC's where discrete solid state devices were bonded onto a circuit pattern that was printed on an alumina substrate. Monolithic IC technology has since matured thanks to the DARPA MIMIC program which was started about the same time of this Symposium. I have good memories of the Symposium because I was the moderator of a panel discussion.

In addition to all of these important activities, there was an announcement that there were three new IEEE Fellows from Long Island. They were Karl Packard of AIL, Henry Bachman of Hazeltine and Dr. Robert Boorstyn of the Polytechnic Institute.

The Section meeting talk for May was "Industrial Static Electricity – Benefactor or Curse" by Dr. Glenn Schmieg of the University of Wisconsin. While most of us see it as negative, he showed several examples of static electricity's benefits.

The AI Committee's lecture was "Knowledge Engineering, Your First Expert System Prototype: A Case Study" by Diane Tosh of E Systems. Her talk described how you design a knowledge based system.

The Computer Society's May talk was "Systolic Arrays and Applications to Image/Signal Processing" by Dr. Henry Chuang of the University of Pittsburgh and the AP Society's lecture was "Radar Signature Technology" by Dr. Oren Kesler of Texas Instruments. Low radar cross section or RCS was important in designing stealthy aircraft. His talk was on techniques to measure and reduce RCS.

The issue also had an article by the late Irwin Feerst that expressed concern about calling people engineers if they did not graduate from an accredited school.

These two **Pulse** issues announced talks on, what was then, new and exciting topics such as MRI, digital audio, microwave integrated circuits, knowledge based and expert systems, signal processing arrays and methods to reduce radar cross section. This gave our members ample opportunity to keep up with their particular field of interest.

As always, I wish to thank Rod Lowman, our former Historian, for preserving these **Pulse** issues and Jim Colotti, our webmaster, for posting many of them on our ieee.li website.

STEM. CHALLENGE

Slam Dunk at East Islip School

This year, the Long Island Section and its Life Members Affinity Group offered a STEM Research Challenge to the East Islip High School in East Islip, NY. The challenge was to write a technical paper on the following subject: S.T.E.M. Research: Scientific Exploration in the Digital Age with Micro/Nano Technology.

This activity was designed to encourage High School students to pursue a career involving Science, Technology, Engineering, Medicine and Math. The research papers must be based upon current activities and developments being pursued by the scientific communities around the world. This creates a focus on current and developing science versus the previous activity which included reviews of any scientific activity from the past.

This change is a major incentive for student to become familiar with the current and scientific disciplines. With the continuing advancements in STEM fields, it is important not only to provide an expansion of recognition of the vast scientific endeavors in the many fields, but also reveal the educational requirements for those activities. With the large array of scientific and technical research journals and publications available on line, students will have a broad selection of candidate current research topics to examine, and will be encouraged to express their opinions about their findings, as well as highlight possible careers in developing fields.

Of the 29 papers that were submitted by the students, twelve papers were selected by the school faculty as finalists; six representing the Lower Division (Grades 9/10), and six representing the Upper Division (Grades 11/12).

These twelve papers were reviewed by a panel of judges from academia and business, and chaired by Professor Marjaneh Issapour, P.E., CCNA, Professor Electrical Engineering & Computer Engineering Technology at Farmingdale State College. The papers were judged on the novelty of the work (relating to S.T.E.M.), the impact of the work on society; the goals, objectives and complexity of the work; the significance of the findings, results and conclusions of the work; and the overall organization of the work.



Pictured from left to right: Vic Zourides, LI Section Chair of Life Members Affinity Group, Maude Walsh, East Islip English Teacher, Lou Luceri, Region 1 Life Member Group Coordinator, Lisa Neri, East Islip Science Teacher, Paul McHugh, Business Teacher and Coordinator of the East Islip School Business Partnership.

LOWER DIVISION WINNERS:

THIRD PLACE WINNER:

James Smalley
Nanoparticles Used in New Insulin Make Life Easier for Diabetic Patients (\$100)

SECOND PLACEWINNER:

Emily Mahoney
Nanotechnology Used to Cure Cancer without Harming Healthy Cells (\$250)

FIRST PLACE WINNER:

Kylie Goess
Chemistry Trick Paves Way for Safer Diabetes Medication (\$500).

UPPER DIVISION WINNERS:

THIRD PLACE WINNER:

Asma Malik
Nanotechnology Engineers use Electrospinning to create the Super Condom (\$100)

SECOND PLACEWINNER:

Grace Vaca
Nano/Micro Technology and Parkinson's Disease (\$250)

FIRST PLACE WINNER:

Phoebe Tedesco
Color Blindness and Biotechnology (\$500)

Certificates of Merit were awarded to the remaining six finalists: Cierra Colon, Kenny Terwilliger, Stephanie Milito, Ran Soto, Emily Fishman, and Michaela Fehn.

Financial support for this project was provided by grants from the IEEE Long Island Section and the IEEE Life Members Committee.



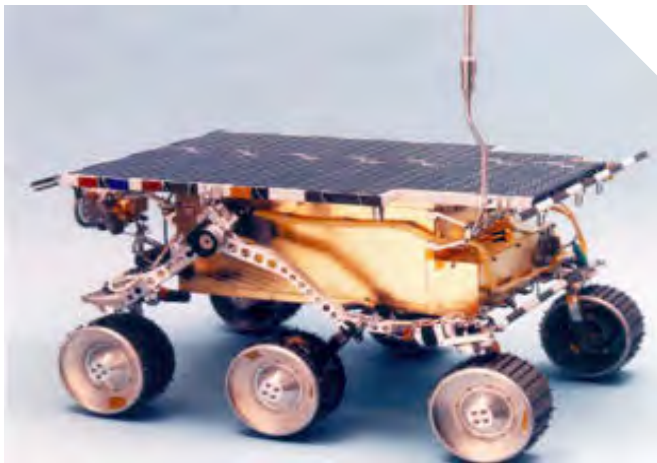
IEEE



American Institute of Aeronautics and Astronautics

IEEE AEROSPACE AND ELECTRONIC SYSTEMS LONG ISLAND CHAPTER AND AIAA/ASME PROUDLY PRESENT

SOJOURNER: THE FIRST MARS ROVER



DATE:

Thursday, June 16, 2016

TIME:

To Be announced

PRESENTED BY:

Donna Shirley

Former Manager of the
Mars Exploration Program
Jet Propulsion Laboratory

COST/DINNER:

Members and Guests:
\$35.00

Students:

\$15.00

LOCATION:

**Spumante
Restaurant**

1650 Hempstead Tpke.
East Meadow, NY 11554

ABSTRACT:

Donna Shirley will give a slide presentation of the development and flight of the small, automated rover that landed with the Mars Pathfinder lander on July 4, 1997. The rover, named for the pre-civil war abolitionist and freedom fighter, Sojourner Truth, operated for over 90 days, exploring the area around the lander. The rover depended on the lander for communication with the earth so when the lander failed after 90 days the rover was also unable to communicate. The rover was built and operated for less than \$25M, funded by the NASA technology directorate to demonstrate that rovers could actually usefully function on Mars. This demonstration has led to several generations of much larger and more capable rovers.

Directions: Spumante Restaurant is on the south side of Hempstead Turnpike ¼ mile East of Meadowbrook Parkway Exit M5 (Hempstead Turnpike) and 1/8 mile east of Merrick Avenue.

RESERVATIONS REQUESTED RSVP BY

June 15, 2016 to: **David Paris** at:
davidsparis@twc.com or (516) 458-8593

SPEAKER BIO:

Donna Shirley is currently President of Managing Creativity. She is a well-known manager, educator, speaker, consultant and trainer on the management of creative teams. She retired in 1998 as Manager of the \$150M/year Mars Exploration Program after a 32-year career at NASA's Jet Propulsion Laboratory. Previously, Ms. Shirley managed the team that built Sojourner, the Microrover, which was landed by the highly successful Mars Pathfinder project on the surface of Mars on July 4, 1997. In 2003 she retired from the University of Oklahoma College of Engineering where she was Assistant Dean and an instructor of Aerospace Mechanical Engineering. In 2002-2003 she was the founding Director of the Science Fiction Museum and Hall of Fame in Seattle. Ms. Shirley has an MS in Aerospace Engineering plus over forty years experience in engineering of aerospace and civil systems, including thirty years in management. She has numerous technical and management awards including four honorary Doctorates. She is the author of Managing Martians, published in 1998 and 1999, Managing Creativity, available at her web site, and dozens of technical papers. She started flying at age 15 and has commercial and flight instructor licenses.



IEEE





ANNUAL AWARDS BANQUET 2016

The IEEE Long Island Section is the largest engineering society on Long Island, New York, with over 2,000 engineering professionals. IEEE members from a wide range of industries work tirelessly to further the advancement of technology, making Long Island a center of innovation.

The Section organized the Annual Awards Banquet on March 31, 2016, in order to recognize the accomplishments of some extraordinary Engineers who contributed significantly towards the growth of the Section and the Region. At the beautiful facility of Fox Hollow at 7725 Jericho Turnpike, Woodbury, NY 11797, the program began at 5:30 pm with cocktail hour. Then the awards ceremony and dinner took place in the banquet hall beginning 7:00 pm.

The program started with a welcome speech made by Peter Alan Eckstein, the IEEE-USA President. It was followed by the keynote speech by a distinguished Engineering Executive, Ms. Donna Linke-Klein, of BAE Systems Greenlawn site, who spoke on "Innovation – Everyone Can Do It".

The Section recognized all the volunteers with a plaque/certificate who dedicated their time and effort in running different Society Chapters of the Section efficiently. Then 9 Section awardees were honored for their outstanding contributions to their fields.

By M. Nazrul Islam, Chair



Welcome Speech, Peter Eckstein, 2016 President, IEEE-USA



MC and 2016 IEEE Long Island Section Chair, M. Nazrul Islam



Keynote Speech, Donna Linke-Klein



T. Lanzisero, J. Schmidt, J. Vodopia, M. Issapor, M. N. Islam



Current and Past Chairs of the IEEE Long Island Section

>> CONTINUED ON PAGE 12



ANNUAL AWARDS BANQUET 2016

IEEE LONG ISLAND SECTION WINNERS

<< CONTINUED FROM PAGE 11



Long Island Section Alex Gruenwald Award

MR. JOHN DUNN, AMBERTEC

For many outstanding presentations on analog design to the IEEE Long Island Consultants Network



Long Island Section Charles Hirsch Award

MR. GERALD KLAHN, FREQUENCY ELECTRONICS

For innovative contributions to the design & development of advanced radio frequency space & communications systems



Long Island Section Lifetime Achievement Award

MR. DONALD CHRISTIANSEN

For a lifetime of service to the engineering profession as the long-time editor and publisher of IEEE Spectrum, numerous papers including engineering ethics, and originating the Micromouse competition



LI Section Athanasios Papoulis Outstanding Educator Award

DR. JOHN FIORILLO, FARMINGDALE STATE COLLEGE

For exemplary teaching, IEEE Student Branch leadership & the creation of a student scholarship fund in conjunction with the Long Island Systems, Applications and Technology (LISAT) conference



Long Island Section Harold Wheeler Award

MR. RICHARD FRAZITA, TELEPHONICS

For managerial and technical leadership in the development of airborne imaging radars and IFF interrogator systems



Long Island Section Outstanding Young Engineer Award

MR. JOE M. CARRANO, TELEPHONICS

For outstanding contributions to military electronic systems software



LI Section Outstanding Volunteer of the Year Award

MR. CHARLES A. PLECKAITIS

For outstanding efforts and accomplishments in assisting members who seek employment



Friend of the IEEE Long Island Section Award

INTERDIGITAL CORP.

For generous financial support of the Long Island Systems and Technology (LISAT) conference for many years



Outstanding Student Branch Award

STONY BROOK UNIVERSITY IEEE STUDENT CHAPTER

For exceptional efforts to promote the electrical engineering field among its members and beyond

>> CONTINUED ON PAGE 13



ANNUAL AWARDS BANQUET 2016

IEEE REGION 1 WINNERS

After dinner, the Section recognized highly the exemplary contributions of six IEEE Region 1 awardees for their excellent achievements at the Region level. They include:

<< CONTINUED FROM PAGE 12

IEEE Long Island Section Special Award TESLA SCIENCE CENTER AT WARDENCLYFFE

The Section also commended the Tesla Science Center at Wardenclyffe for its stimulating innovation and honor Nikola Tesla for the creation of a world-class science, technology and engineering educational facility and museum



Managerial Excellence in an Engineering Organization MR. SHELDON BROWN

For managerial leadership in the development, implementation and production of IFF interrogator systems



Technical Innovation (Industry and Government) MR. TOMMASO VULPIS

For outstanding technical achievements in the design and development of high-frequency Dielectric Resonator Oscillators for satellite systems



Technical Innovation (Industry and Government) MR. JUSTIN MALONEY-HAHN

For innovative Airborne Radar & IFF subsystem architectures for Size, Weight and Power (SWaP) constrained applications



Technical Innovation (Industry and Government) MR. MICHAEL F. CIARDULLO

For the development of innovative microwave components & sub-systems for satellite communications & electronic warfare systems



Enhancement of the relationship between IEEE & Industry Dr. M. Nazrul Islam, Farmingdale State College

For outstanding service to the IEEE Long Island Systems Applications & Technology (LISAT) Conference while serving as its Publications Chairman



Enhancement of IEEE or Engineering Profession's Image for Public Mr. William F. Wilkes

For creative outreach initiatives with retired engineers by encouraging the formation of senior engineer clubs

The IEEE Long Island Section greatly appreciates the excellent support from various organizations in terms of sponsorships and advertisements, including Retlif, Stony Brook University, Telephonics, Harris Corp., L3 Narda Miteq, BAE Systems (Greenlawn), Farmingdale State College, Long Island Consultants Network (LICN), New York Institute of Technology (NYIT), Keysight Technologies, Project Management Institute Long Island, New York Chapter (PMILIC), Advance Technical Marketing, Superior Technical Solutions Corporation, John Vodopia, PC, Contech Marketing Associates, Applied Visions.

See the Awards Banquet 2016 Photo Gallery at the Pulse online:
<https://www.ieee.li/2016-awards-banquet/>

NOMINATIONS SOLICITED FOR 2016 IEEE REGION 1 AWARDS

by JESSE TAUB, AWARDS CHAIRMAN

IEEE REGION 1 AWARDS

PURPOSE: The purpose of the **Region 1 Awards Program** is to publicly recognize professional and technical excellence and major accomplishments and contributions made by Region 1 IEEE members.

Region 1 of the IEEE gives awards to its members in a variety of technical, managerial and professional categories which are described below. Nominations forms and other instructions can be found on the IEEE website: www.ieee.org and then ask for “**Region 1 Awards**” in the search box.

AWARD CATEGORIES: There are six categories for the **Region 1 Awards**:

1A. NEW TECHNICAL CONCEPTS IN ELECTRICAL ENGINEERING

For significant patents, for discoveries of new devices or applications, and for significant reductions in components or processes.

1B. ELECTRICAL ENGINEERING PROFESSIONALISM

For personal, high-level leadership in research and design performance in support of all phases of the Electrical Engineering Profession.

1C. PROMOTION OF SELF-DEVELOPMENT FOR PRACTICING ELECTRICAL ENGINEERS

By arranging courses, seminars, and tutorials to enhance the educational level and the competence of practicing electrical engineers.

1D. ENHANCEMENT OF IEEE IN INDUSTRY AND COMMUNITY SERVICE

For outstanding service to the IEEE at the Chapter, Section, Region, and national level, and for major contributions to the industry and the community.

1E. ELECTRICAL ENGINEERING MANAGEMENT

For managerial excellence in organization, leadership, design, and development.

1F. ELECTRICAL ENGINEERING SUPPORT FOR STUDENT ACTIVITIES

For improving communications between the IEEE and a Student Branch or Student Group; for support and service to a Student Branch or Student Group; for service and leadership to the student community.

1G. THE WILLIAM TERRY DISTINGUISHED LIFETIME SERVICE AWARD

This award is intended to recognize those whose personal efforts have provided leadership, creativity, guidance, hard work, and inspiration in a wide range of IEEE activities over a long period of time.

*Please send your nominations to Jesse Taub, the Section's Awards Chair at jjtaub@aol.com. They will be reviewed by the Section's Awards Committee. Nominations must be received on or before **May 15, 2016**. If you have any questions, please call **631-420-1564**.*



2016 NEW YORK SCIENTIFIC DATA SUMMIT (NYSDS) DATA-DRIVEN DISCOVERY

Led by the Computational Science Initiative's at Brookhaven National Laboratory (BNL), the *New York Scientific Data Summit (NYSDS)* aims to accelerate data-driven discovery and innovation by bringing together researchers, developers and end-users from academia, industry, utilities and state and federal governments. Jointly organized by **Brookhaven National Laboratory (BNL)**, **Stony Brook University (SBU)**, **New York University (NYU)**, and **IEEE Long Island Computer Society (IEEE CS)**. The theme of this year's conference is "Data-Driven Discovery." With keynote speakers from industry and international big-science projects, the 2-1/2 day conference is organized into five sessions.

Co-hosts include BNL, the Institute for Advanced Computational Science at SBU, the NYSTAR High-Performance Computing Consortium (HPC2), the New York University Center for Data Science, the Moore-Sloan Data Science Environment, and IEEE Long Island Computer Society Chapter.

FOR MORE INFORMATION PLEASE GO TO:

<https://www.bnl.gov/nysds16>

EVENING EVENTS

Registered attendees are invited to attend the sponsored welcome reception and conference dinner; free of charge for registered participants.

WELCOME RECEPTION:

New York University
Grand Hall

Sunday, August 14, 2016, 7-9 PM [View Map](#)

TUESDAY NIGHT DINNER:

New York University
Rosenthal Pavilion

Tuesday, August 16, 2016, 7-9 PM [View Map](#)

PROGRAM

Sunday, August 14

7:00-9:00 pm *Sponsored Welcome Reception*

Monday, August 15

9:00-12:30 pm *Session 1: Streaming Data Analysis*

2:00-5:00 pm *Session 2: Long Term Data Storage, Curation & Sharing*

5:00-6:00 pm *Panel Session*

Tuesday, August 16

9:00-12:30 pm *Session 3: Experimental Data*

2:00-5:00 pm *Session 4: Industry Solution Challenges for Big Data*

5:30-6:30 pm *Poster Session*

7:00-9:00 pm *Dinner*

Wednesday, August 17

9:00-12:30 pm *Session 5: The Conversion of Data and HPC*



Stony Brook University



IACS INSTITUTE FOR ADVANCED COMPUTATIONAL SCIENCE



Stony Brook University

NOVEMBER 2 & 3
MELVILLE, NY

CEWIT2016

THE 13TH INTERNATIONAL CONFERENCE & EXPO ON EMERGING TECHNOLOGIES FOR A SMARTER WORLD (CEWIT2016)

November 2 & 3, 2016, Melville Marriott Long Island, Melville, New York

SCOPE OF THE CONFERENCE

We cordially invite you to submit your contribution to the 13th International Conference & Expo on Emerging Technologies for a Smarter World (CEWIT2016). Originally known as the International Conference on Cutting-Edge Wireless & Information Technologies, this conference is organized by the New York State Center of Excellence in Wireless and Information Technology (CEWIT) located at Stony Brook University in New York. CEWIT2016 is the premier international forum on the applications of emerging technologies in infrastructure, healthcare, and energy, which are three of the most critical components of a smarter global environment. Specific topics of interest include, but are not limited to, the following:

AREA 1: THE INTERNET OF THINGS (IOT)

- Wireless Sensor Networks
- Intelligent Sensors/Devices
- Collaborative Signal/Image Processing
- IoT Applications and Services
- Device and Circuit Design for IoT
- Architecture & Systems Design for IoT
- Interface and Control Systems for IoT
- IoT Data Analytics -Mobile IoT
- IoT Testbed and Standards

AREA 2: CYBERSECURITY

- Mobile Security
- Internet of Things (IoT) Security
- Defenses against Zero-day and Targeted Attacks
- Defenses against Insider Threats
- Online Privacy and Anonymity
- Vulnerability Analysis & Software Protections
- Digital Forensics
- Privacy Enhancing Technologies
- Anonymity Domain Abuse & Trademark Dilution

AREA 3: HEALTH TECHNOLOGIES AND MEDICAL DEVICES

- Advanced Medical Imaging
- Computer-Aided Diagnostics
- Wireless Telemedicine
- Noninvasive Health Monitoring
- Teleradiology
- Personal Medical Devices
- Implantable Sensors
- Medication Adherence
- Asset Tracking and Monitoring
- Mobile Diagnostics
- Implantable Prosthetics

AREA 4: BIG DATA ANALYTICS AND VISUALIZATION

- Model Driven Data Analysis
- Data Mining in Business Intelligence
- Text Mining & Sentiment Analysis
- Visual Analytics
- Biomedical & Healthcare Informatics
- Distributed Robotics and Real
- Time Data Analytics
- Virtual and Augmented Reality
- Immersive Interface
- Tiled Displays
- Human Computer Interaction
- GPU Clustering

AREA 5: SMART URBAN SYSTEMS

- Securing the Transportation Infrastructure
- Transportation Infrastructure Sensing
- Traffic Simulation & Visualization
- Interaction between Vehicles & the Environment
- Integrated Management Technology for Ubiquitous City
- Sensor Network for Water and Electric Utilities
- Urban Pollution

AREA 6: SMART ENERGY

- Distributed Sensor Networks for Smart Grid
- Advanced Metering Infrastructure
- Energy Efficient Computing
- Advanced Sensor and RFID Technologies
- Smart Grid Interoperability
- Simulation and Modeling

AREA 7: INFORMATION TECHNOLOGY & SOCIETY

- Worldwide Economic Impact of IT
- IT in Education
- IT as the Job Creation Engine
- Social Media
- Information Dissemination
- Global Impact

IMPORTANT DATES

Abstract Submission Deadline: May 1

Notification of Acceptance: June 1,

Camera-Ready Paper and

Presentation Materials: July 1

CONTACT INFORMATION

For more information about CEWIT2016, visit www.cewit.org or contact the conference general chair Dr. Shmuel Einav or the program committee chair Dr. Rong Zhao at +1 631-216-7000 or email conference@cewit.org.

VENUE

CEWIT2015 will be held at the Melville Marriott Long Island. The Melville Marriott is conveniently situated just 20 miles from Islip Airport, 30 miles from JFK Airport and 30 miles from LaGuardia Airport. For more information please visit <http://www.marriott.com/hotels/travel/nycml-melville-marriott-long-island/>

WWW.CEWIT.ORG

SUBMISSION GUIDELINES

CEWIT2016 is primarily interested in serving as a venue for the discussion of technical contributions highlighting end-to-end technical solutions, applications and systems, even if available only in prototype form. Therefore, we strongly encourage authors to submit abstracts describing their contributions in an application-oriented context. Abstracts will be evaluated by conference program committee members and external reviewers. Submissions will be judged on validity, originality, technical strength, practical significance, quality of presentation, and relevance to the conference topics. We encourage submissions from a variety of fields where in-depth application-centric ideas addressing important challenges related to the conference theme are discussed. Authors of accepted oral presentations may submit a full paper to be included in the conference proceedings. In addition to the oral presentations, we encourage participation in the poster session to present on-going research and innovative application projects. A judging panel of industry and academic experts will evaluate the posters and determine the winners of Best Poster and Best Student Poster Awards. Please submit your abstract electronically at www.cewit.org. Submission guidelines and other information will be provided on the conference website.

Stony Brook University

NOVEMBER 2 & 3
MELVILLE, NY

CEWIT 2016

The 13th International Conference & Expo on Emerging Technologies for a Smarter World

November 2 & 3, 2016
Melville Marriott Long Island
Melville, NY, USA

Gaining recognition as one of the leading IT conferences, CEWIT2016 is the premier international forum on the development and application of emerging technologies in infrastructure, healthcare and energy — three of the most critical components of a smarter global environment. With more than 175 participating organizations and 500 attendees, CEWIT2016 is a destination for disseminating cutting-edge ideas in information technology and for driving the local, regional and global innovation economies.

Contribute to the leading IT research shaping the solutions of tomorrow. Call for Papers Now Open Through May 1, 2016.

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The Section is inviting you to record your stories and histories in our monthly publication, the *Long Island Pulse*. An article of approximately 300 – 350 words is recommended.

LET US HEAR FROM YOU.

Send your article to: **Pulse@ieee.li**
c.c. Life Member Chair: **life@ieee.li**



IEEE LIFE MEMBERS *Write for Pulse!*

The **IEEE Long Island Section** has held meetings with many of our Life Members and Senior Engineers, in recent months. Your stories and histories in engineering are interesting, inspiring and should be recorded for future generations. You have served your profession for many years, many have served our country in the military, many as engineers fighting the Cold War. The many contributions are the legacy to this new digital age, space age, environmental age and beyond.

WE WANT YOUR STORIES



2016 IEEE MIT UNDERGRADUATE RESEARCH TECHNOLOGY CONFERENCE

CALL FOR PAPERS

Submission Deadline: September 3rd, 2016

Envisioning a technical conference targeted towards undergraduate students all over the globe, last year, the MIT IEEE Student Branch inaugurated the IEEE MIT Undergraduate Research Technology Conference. This year we are organizing it again, with the goal that the conference will be a venue where undergraduate students can meet to present, discuss, and develop solutions to advance technology for humanity. Participants can attend a rich program with renowned speakers, technical sessions, a student design competition, exhibits, networking, and social activities, presenting a great opportunity for students to interact with leading industry experts.

AUTHORS MAY SUBMIT CONTENT IN THE FORM OF A TECHNICAL PAPER, POSTER, OR LIGHTNING TALK.

To submit: <https://iee-r1-studentconference.myreviewroom.com>

All submissions must be written in English. Paper submissions must be no longer than 4 pages with minimum font of 10 point, single-spaced, and submissions may include figures, illustrations, and graphs. Abstract submissions for poster and lightning talk are limited to 500 words.

All submissions will be peer-reviewed. Submission will be online, with deadline September 3rd, 2016. Notification of acceptance will be sent via email by September 24, 2016.

A conference proceeding of all the accepted papers that have been presented at the conference may be published, and included in the IEEE Xplore. Electronic and online media containing all accepted submissions will be distributed to all registered attendees.

THE CONFERENCE THEME IS
"MEET INNOVATIVE TECHNOLOGY", AND
THE SIX FOCUS TECHNICAL TRACKS ARE:

- **Machine Learning and Cloud Computing**
- **Biological & Biomedical Engineering and Technology**
- **Robotics and Automation Technology**
- **Communication and Security**
- **Wearable Technology**
- **Innovative Technologies X-Track**

STUDENT ACCOMMODATION

IEEE MIT Student Branch can arrange MIT student volunteers to host visiting student attendees at the MIT resident hall. This is only available for non-MIT Students and it is free.

MAILING LIST

Please join the mailing list (MIT-Conference@ieee.org) for more information and updates on the submission, technical program, registration, and accommodation.

INQUIRIES

For inquiries, please email: ieee-ucc-chairs@mit.edu
Alice Zhan (Chair), Helen Zhou (Vice Chair)

2016 IEEE MIT UNDERGRADUATE RESEARCH TECHNOLOGY CONFERENCE

November 4 - 6, 2016

Massachusetts Institute of Technology (MIT),
Cambridge, Massachusetts

10 BEST JOBS IN AMERICA FOR 2016

If you want to have the best job in America, you'll need a background in mathematics or science, preferably computer science. Of the 10 best jobs on CareerCast's annual Jobs Rated report, released this month, all of them require schooling in one of those areas. While the report's top 10 occupations may require intense education, the payoff is large. These jobs have high median salaries and double-digit growth prospects. The top job for 2016 is data scientist, a relatively new field that has an annual median wage of nearly \$130,000 and is expected to grow 16% from 2014 to 2024, notes CareerCast, an online career portal for job seekers and a unit of Adicio, a provider of white-label software for job boards, real estate, motors and general classifieds sites. CareerCast's annual report ranks 200 professions based on data from the Bureau of Labor Statistics. To determine the best and worst jobs, CareerCast analyzed each job's environment (emotional, physical and hours worked), income (growth potential and salary) and outlook (employment growth, income growth potential and unemployment), along with 11 stress factors to determine which professions are among the most and least desirable, the report said. On the other hand, the worst job of the year is in the media industry, where big changes are transforming the industry from print to digital. As a result, newspaper reporters (CareerCast's worst job for 2016) are in decline. But that doesn't mean the reporter can't make the transition to a job with a digital medium. So what are some other most desirable jobs this year?

1. DATA SCIENTIST

Annual Median Wage: \$128,240 | Growth Outlook: 16%

CareerCast's top job for 2016 is a data scientist. "Similar to a business/data analyst, data scientists [combine] knowledge of computer science and applications, modeling, statistics, analytics and math to uncover insights in data," according to I Programmer, an online magazine for programmers. Employment growth is strong for data scientists. The rise of big data means there is a growing need for professionals who can interpret the data. Harvard Business Review has dubbed the profession the "sexiest job of the 21st century."

2. STATISTICIAN

Annual Median Wage: \$79,990 | Growth Outlook: 34%

CareerCast's second best job for 2016 is a statistician. Statisticians use "statistical methods to collect and analyze data and to help solve real-world problems in business, engineering, healthcare, or other fields," according to the BLS. With the highest level of growth projections among CareerCast's top 10 list, employment of statisticians is expected to rise 34% from 2014 to 2024 as companies and organizations increasingly use statistical analysis to make informed business and health care decisions.

3. INFORMATION SECURITY ANALYST

Annual Median Wage: \$88,890 | Growth Outlook: 18%

The growing problem of global computer hacking means there is a greater need for cyber security solutions, contributing to ranking information security analysts as the third best job for 2016, according to CareerCast. An information security analyst creates and executes security measures protect an organization's computer networks and systems. The BLS projects information security analyst employment to rise 18% over the 10-year period through 2024. "Demand for information security analysts is expected to be very high, as these analysts will be needed to create innovative solutions to prevent hackers from stealing critical information or causing problems for computer networks," the BLS said.

4. AUDIOLOGIST

Annual Median Wage: \$73,060 | Growth Outlook: 29%

Audiologists are health care professionals who diagnose, manage and treat a patient's hearing, balance or ear problems. It is another profession that will be in increased demand as baby boomers age, needing more specialized health care services. The BLS expects employment for audiologists to grow by 29% over the 10 years through 2024.

5. DIAGNOSTIC MEDICAL SONOGRAPHER

Annual Median Wage: \$62,540 | Growth Outlook: 24%

The BLS groups diagnostic medical sonographers together with cardiovascular technicians, which operate special imaging equipment to create images or to conduct tests to help physicians assess and diagnose medical conditions, according to the BLS. The BLS has projected employment for the group to rise by 24% from 2014 to 2024 - much faster than the average occupation. "As imaging technology evolves, medical facilities will continue to use ultrasound to replace more invasive, costly procedures," the BLS said.

6. MATHEMATICIAN

Annual Median Wage: \$103,720 | Growth Outlook: 21%

Mathematicians "analyze data and apply mathematical techniques to help solve real-world problems," according to the BLS. Jobs in the field are expected to grow by 21% over the 10 years through 2024 -- much faster than the average occupation. "Businesses will need mathematicians to analyze the increasing volume of digital and electronic data," the BLS said.

7. SOFTWARE ENGINEER

Annual Median Wage: \$97,990 | Growth Outlook: 17%

Software engineers, or software developers as the BLS calls them, develop software applications for computers and mobile devices as well as the underlying systems that run the devices or networks. Employment in the field is projected to rise 17% over the 10-year period through 2024 as the demand for computer software stays strong.

8. COMPUTER SYSTEM ANALYST

Annual Median Wage: \$82,710 | Growth Outlook: 21%

A computer systems analysts studies "an organization's current computer systems and procedures and design information systems solutions to help the organization operate more efficiently and effectively," according to the BLS. The field is expected to grow much faster than the average for all occupations due to the growth in cloud computing, cybersecurity and mobile networks, which will increase demand for these specialized workers, the BLS said. Computer systems analyst jobs are projected to rise 21% over the 10-year period through 2024.

9. SPEECH-LANGUAGE PATHOLOGIST

Annual Median Wage: \$71,550 | Growth Outlook: 21%

Speech-language pathologists are therapists that "assess, diagnose, treat, and help to prevent communication and swallowing disorders in patients," according to the BLS. The BLS projects that speech pathologist employment to rise 21% over the 10-year period through 2024. "As the large baby-boom population grows older, there will be more instances of health conditions that cause speech or language impairments, such as strokes and hearing loss," according to the BLS.

10. ACTUARY

Annual Median Wage: \$96,700 | Growth Outlook: 18%

Actuaries analyze risk and uncertainty and determine the associated financial costs. It is a field suited for those with schooling in mathematics, statistics, and financial theory. The work of actuaries is essential to the insurance industry, according to the BLS. The BLS projects that employment of actuaries to rise 18% over the 10-year period to 2024, which is much faster than the average for all occupations. "Actuaries will be needed to develop, price, and evaluate a variety of insurance products and calculate the costs of new, emerging risks," according to the BLS.

BY CHARLES PLECKAITIS

Chair, Employment Assistance Committee, IEEE Long Island Section

IEEE computer society

Share Your Experience **PRESENT YOUR WORK TO IEEE**

**Working on an interesting project? Or have an interesting topic to talk about?
A startup ready to spread a word, or in need of beta testers with computer knowledge?**

Computer Society Chapter invites you to present your project or your experience. For one of the upcoming meetings we'd like to mash technical and social, and have several presenters presenting interesting computer-related topics in a shorter timeframe, fostering conversation. This is an opportunity to meet each other, learn about our work and possibly identify opportunities for collaboration.

Contact IEEE Computer Society Chapter at computer@ieee.li with your suggested topic.

WHICH COMPANIES PAY ENGINEERS THE MOST?

Recruitment firm Glassdoor this week ranked the top 25 highest paying companies in the U.S. Tech firms—in particular, those in the San Francisco Bay Area—generally dominated the list (though management consulting firms sat in the number one and two slots).

Of the tech companies, Juniper Networks, which was number three overall, came out on top, with a median compensation—that's salary plus bonus and other extras—of \$157,000.

Google was the next tech firm in the ranking. Its median compensation of \$153,750 was high enough to land it at number five. VMware took sixth place, and Amazon Lab126, a Silicon Valley R&D firm that is a subsidiary of Amazon.com, came in seventh.

BY CHARLES PLECKAITIS

Chair, Employment Assistance Committee, IEEE Long Island Section

Guidewire ranked ninth, Cadence Design Systems tenth, and Facebook 12th. After that, it was tech all the way, with spots 13 through 25 held by Twitter, Box, Walmart eCommerce, SAP, Synopsys, Altera, LinkedIn, Cloudera, Salesforce, Microsoft, F5 Networks, Adobe, and Broadcom, anchoring the top 25 at \$140,000. (Of these tech companies, only SAP, Microsoft, and Broadcom aren't based in Northern California.)

Addressing the results of the study, Glassdoor chief economist Andrew Chamberlain, quoted in a blog post from the company, said, "In technology, we continue to see unprecedented salaries as the war for talent is still very active, largely due to the ongoing shortage of highly skilled workers needed."

To conduct the study, Glassdoor looked at companies whose U.S. based employees submitted more than 50 salary reports detailing their base salary and other forms of compensation over the past year ending 29 March.



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THE IEEE CONSULTANTS NETWORK OF LONG ISLAND (LICN)

is a nonprofit professional organization affiliated with the Institute of Electrical and Electronics Engineers. Our members include dozens of electrical, electronic, mechanical and software engineers with expertise in over 65 categories of technology and business. All are members of the IEEE and adhere to the IEEE professional codes of ethics.

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TOWN OF HEMPSTEAD LONG ISLAND, NEW YORK



TOWN OF HEMPSTEAD PROVIDES FREE SOLAR POWER TO ELECTRIC CARS

"Power to the people," declared Hempstead Town Supervisor Anthony J. Santino as he announced that Hempstead Town is now offering free power at its state-of-the-art solar charging carports in Point Lookout. The carports/charging stations provide energy to recharge electric-powered motor vehicles 24 hours a day, 7 days a week. Pulling up to the charging stations in a Chevrolet Volt electric car, the Supervisor was joined for the "electrifying" announcement by Councilwoman Erin King Sweeney, Councilman Anthony D'Esposito and Tom Hug, owner of Hug Real Estate, who is excited about the increase in options for charging his planet friendly vehicle.

"As we close in on Earth Day, governments have a responsibility to lead by example when it comes to being environmentally responsible," stated Santino. "Partnering with drivers who care about our planet, we are making it easier for electric car owners to be kind to Mother Nature and repower their electric vehicles."

The three town solar carports/charging stations, which are located at the township's East Marina, along Lido Boulevard, immediately east of the Loop Parkway, can accommodate six vehicles. The units offer two levels of charging (120V and 240V) to provide power to an array of vehicles. Previously, the charging stations have been utilized to energize a variety of vehicles in the town's electric car and truck fleet. However, another charging facility at Hempstead's nearby Conservation and Waterways Office is now fueling the town's vehicles, freeing the six stations at the East Marina for public use.

"The town is partnering with the public to make our communities more 'green and clean'," observed D'Esposito. "Offering free charging to residents for their electric vehicles is a great way to demonstrate that electric vehicles can be practical, and that government and the public have a shared commitment to the environment," added King Sweeney.

Officials noted that typically electric powered cars designed for road use require four hours to recharge (models and types of vehicles specify recharge time ranges for their respective cars). The Supervisor encouraged residents who own electric cars to come on down to the beach or one of Point Lookout's local restaurants and recharge their vehicles while they relax at a great summertime destination. The recharging station is within walking distance to beaches and local eateries. "Why not recharge and relax at the beach or at a local restaurant while your car recharges at the town's electric powered car recharging station," said the Supervisor.

The charging station units and the associated solar canopy have a value of approximately \$200,000. The canopy was funded with federal grant monies secured by the town while the charging station units were provided by Green Power Technologies with the benefit of federal grants provided to the company. The 14K system was installed by EmPower Solar.

To take advantage of this free service, residents can register with ChargePoint, the company that built the stations. ChargePoint does require that their customers register credit card information, because some station owners charge a fee. However, because the town's charging stations are free, residents will not be charged. Upon completion of registration, electric car owners will receive a scannable ChargePoint card, which will give users access to our station and others in the ChargePoint Network. Residents can also activate a charging session using the ChargePoint app on their smart phone or by using any RFID chip credit card.

A feature that makes the solar carports/charging stations a uniquely important part of Santino's environmental agenda is that the process of charging the vehicles and the public's use of electric cars can offer energy and transportation without any carbon footprint. While electric cars on their own furnish a "clean" mode of transportation, the energy ordinarily used to recharge the cars is generated by electricity created by utilities that rely on fossil fuels. In the alternative, the solar carports/charging stations generate energy through photovoltaic cell technology, creating no carbon footprint and drawing upon the sun's renewable power.

"Harnessing the sun's power with a solar powered charging station for electric cars is a victory for our community, for drivers of electric cars and the planet," announced Santino. "We are doing something in our town that is uniquely positive, creating an example for other planet conscious governments to emulate."

Santino observed that the solar carports/charging stations are located at a good site for owners of electric vehicles, explaining that the small hamlet of Point Lookout is home to a number of electric vehicles.

Tom Hug, owner of Hug Real Estate in Point Lookout, discussed his positive experience with the town's solar partnership. Hug commutes around Point Lookout in his GEM car, and is excited about the opportunity to charge his vehicle at the new location.

"The town's solar charging stations provide a great service to the public," said Hug. "Together, government and people are making a positive difference for the environment."

Demonstrating that being ecologically responsible can be fun, Santino presided over a "drag race", pitting Hug against D'Esposito, driving two electric powered John Deere utility vehicles that are part of the town's collection of work vehicles.

"Hempstead Town and the public are taking a victory lap together, drawing upon the sun's power," concluded Santino. "I invite drivers to use the town's solar carports/charging stations for their electric vehicles at no charge."

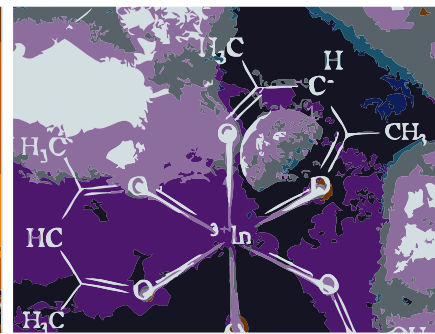
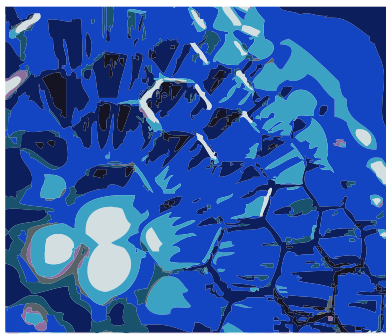
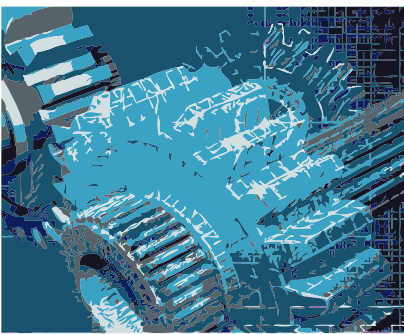


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