Note from the Chairman

The AIAA Long Island Section Council wishes you and your families a healthy and happy New Year.

As we start the new year, be aware of an extensive program of new space missions in 2020. NASA plans to launch the Mars 2020 rover, which will include the Mars Helicopter Scout. The rover will collect samples for eventual return to Earth. Other Mars missions include: The European Space Agency in partnership with Roscosmos will launch the Rosalind Franklin rover; the China National Space Administration (CNSA) will launch its HX-1 mission, which includes an orbiter and small rover; the United Arab Emirates will launch the Hope Mars Mission orbiter on a Japanese rocket. China intends to launch Chang'e 5, a sample-return mission to the Moon. NASA’s OSIRIS-REx mission will sample the asteroid Bennu in July. The JAXA Hayabusa2 mission will return samples of asteroid Ryugu to Earth in December. SpaceX’s Dragon 2 and Boeing’s CST-100 Starliner are expected to make their first crewed flights in early 2020. China plans to test a new generation of crewed spacecraft in October, and begin construction of the Chinese large modular space station. And there are dozens of other missions planned.

Thank you,

Dave Paris, 516-458-8593 davidsparis@twc.com
Expanding the human neighborhood beyond our planet and flying faster and more efficiently here on Earth, means there’s lots of life-changing work to do. AIAA’s three priorities are air mobility/autonomy, transformative flight, and the space economy. In the air mobility sphere, the opportunities are in automation and control/safety, public acceptance, design challenges, and defense applications. Hypersonics and defense applications are major areas of transformative flight. The space economy includes not only space exploration but also national security and potential economic growth from cislunar resources. We estimate there are 17,000 near Earth objects with a potential of 2 trillion kg of industrial metals and 150 metric tons of precious metals. Between the commitment to put humans on the moon by 2024 and a 4.7 percent increase in the 2020 $750 billion Budget Request for Defense, the aerospace industry has jobs but not enough people to fill them. Employment is expected to grow 6 percent by 2026 while the unemployment rate of recent grads has hit 2.5 percent.

We have work to do to address these exciting challenges. Join me in learning more about how we can work together to solve aerospace challenges that have the promise to transform our society for the better.

Dan has agreed to speak about the status of the Aviation and Space Industry through his lens based upon his experience and what he is seeing. He will include a discussion of the future of Uncrewed Aircraft, and the balance between Robotic and Human spacecraft in future missions.

AIAA is the world’s largest technical society dedicated to aerospace. Before joining the AIAA staff in January 2018, Daniel Dumbacher was a Professor of Engineering Practice in the School of Aeronautics and Astronautics at Purdue University, where he taught courses in systems thinking, systems engineering, and space policy. Prior to Purdue, he served as the Deputy Associate Administrator, Exploration Systems Development Division, Human Exploration and Operations Mission Directorate at NASA Headquarters. In that capacity, he provided leadership and management as the Program Director for Exploration Systems Development, which included: the Space Launch System; and Ground Systems Development and Operations development and integration efforts. He led a national team of over 5,000, spanning all NASA centers and industry, and was responsible for a $3 billion annual budget. He has received numerous awards and honors including the coveted Silver Snoopy Award and the NASA Distinguished Service Medal. He earned a mechanical engineering BS and business administration MA.

Directions: The library is west of Route 135 in Bethpage. Take Route 135 to Exit 8, then West on Powell Ave. for about 0.25 miles. The library is on the south side of the street. Park across Powell Ave., opposite the library.
ENGINEERS WEEK CELEBRATION
Sponsored by the
METROPOLITAN ENGINEERING SOCIETIES COUNCIL (MESC)

RESERVATIONS REQUIRED FOR DINNER. THE PUBLIC MAY ATTEND THE LECTURE (ONLY) AT NO CHARGE.

Date: Thursday, Feb. 13, 2020
Where: Ukrainian East Village Restaurant, 140 Second Ave. nr 9th Street, New York, NY 10003
Travel: By Subway-F Line (2nd Av); Lex Av Line (Astor Pl); Conn’s From B,D,G Lines at (B’way Lafayette); Bus Lines along 2nd and 3rd Aves.

Time: 5:30 pm Registration: Main Dining Room
6:00 pm Buffet Dinner: Main Dining Room

Program: 7:00 pm Presentation: Main Dining Room
7:00 - 7:25 Welcome & Introductions: Wasyl Kinach, P.E., MESC Chair
7:25 - 7:45 Presentation of Mayor’s Proclamation
7:45 - 7:50 Introduction of Keynote Speaker, David A. Weiss, P.E, IEEE Representative
7:50 - 8:55 Keynote Address - Burton Dicht, CAE, Director, Student and Academic Education Programs, IEEE

Topic: FROM MOONWALKS TO SPACEPLANES- A HISTORY OF THE SPACE SHUTTLE
The space shuttle era came to a close with the final flight of Atlantis in July 2011, after thirty-years of operation. The shuttle system was an engineering marvel. Yet, it never lived up to the expectations of its proponents. Mr. Dicht will guide us through its development, will touch on the politics and economics of the time and their impact on its design. He will also describe several of the engineering challenges that were more difficult than going to the moon.

Cost: $50.00 – mailed reservations and check required by February 7, 2020
No "At Door" payment 1 PDH for this meeting

Please mail your check made payable to MESC and mail it with the tear-off below to the MESC treasurer: Ms. April Leyla Berkol; 75 West End Ave, Apt P38A; New York, NY 10023

February 13, 2020 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

Representing Chapters and Sections of the following professional organizations in the Metropolitan New York area:
Association for the Advancement of Cost Engineering American Institute of Aeronautics and Astronautics
American Society of Civil Engineers American Society of Heating, Refrigerating and Air-Conditioning Engineers
American Society of Plumbing Engineers American Society of Safety Engineers
Association of Energy Engineers Illuminating Engineering Society
Institute of Electrical and Electronics Engineers Institute of Industrial Engineers
New York Academy of Sciences New York State Society of Professional Engineers
Society of Fire Protection Engineers Society of Women Engineers
Municipal Engineers City of New York American Nuclear Society

FLIER 3 JANUARY 2020
Engineers Joint Committee of Long Island

ENGINEERS WEEK SEMINARS

Date: Thursday, February 13, 2020

Time: 8:00am – 4:30pm

Place: Holiday Inn Plainview – 215 Sunnyside Boulevard, Plainview, NY 11803

Fee: $135 for full day; includes Continental Breakfast & Lunch

Engineers Week Seminar Tentative Topics:

- VFD Technologies
- Nuclear Energy
- Entertainment Engineering
- 20 Years of Wireless Instrumentation & Automation
- Single Ply Membranes Exposed: The Myths & The Facts
- One & Two Family Electrical
- Solar Assisted Combined Cooling, Heating & Power (SCCHP) Plant
- Building Energy Efficiency and Roof Design
- Building Commissioning
- IRC 2015 Code Compliant Wood Framed Residential Details

For more information or to reserve a spot, contact:

Tom Fiorella
Home: (718) 258-3143
Mobile: (516) 359-1038
tfi9651@msn.com
NOVEMBER MEETING REPORT

Our last section meeting was held on November 21 at the Bethpage Public Library. Mr. Max Aginsky, a Wind Turbine Engineer at GPT ENERGY LLC. spoke about “Vertical Axis Wind Turbines on Long Island.” He was joined in the presentation by Mr. Ilya Tsitron, the company’s president.

We live in a world where energy consumption is increasing while energy production causes increased pollution. Wind is one of the most promising sources of clean, renewable energy available today. Gradual design improvements for the conventional horizontal axis wind turbines are making wind energy costs more and more affordable, yet the construction and maintenance costs of today’s conventional wind turbines are incredibly high.

These wind energy machines are huge, very noisy, and harm birds. Conventional vertical axis wind turbines are limited in size, have poor stability and lifespans, and can still harm birds.

A New York company, GPT Energy, has developed a new patented vertical axis wind turbine technology called Green Power Tower (GPT). It is less costly to build, to install, and to maintain than any conventional wind technologies. This new technology, unlike any other wind turbines, is a stable cylinder-shaped tower that has no moving parts outside of the structure and thus is safe for birds. The GPT lacks all of the problems of other designs.

Max and Ilya took turns informing the audience of the advantages and progress of the GPT. Model parts are produced by 3D printing. Test models have been placed in a few locations and on the top of a car traveling at 60 mph. Wind tunnel testing is being conducted at New York Institute of Technology (NYIT), Stonybrook University and RPI. Various blade shapes, numbers of blades and shapes of inlet channels have been tried. It is expected that good efficiency levels will be achieved.

While the tower itself does not rotate, the propellers within are spinning from wind flowing in any direction. It is stackable and scalable to any size. It can be placed virtually anywhere, including on rooftops, ships, or attached to a wall of a building. Unlike conventional wind turbines, GPT is safe near residential areas. Max and Ilya consider the Green Power Tower to be the future of wind power.

The audience asked a number of good questions and seemed interested in the future of this vertical axis wind turbine design.

Our co-sponsors for the meeting were IEEE(AESS) and IISE.
Spring/Summer Hours (April 1 – October 31)

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<th>Day</th>
<th>Hours</th>
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<tr>
<td>Monday - Friday</td>
<td>10:00am - 5:00pm</td>
</tr>
<tr>
<td>Saturday, Sunday &amp; Holidays</td>
<td>10:00am - 6:00pm</td>
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Year-Round

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<tr>
<th>Early Morning Tours</th>
<th>For more information and to purchase tickets</th>
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<td><a href="https://www.intrepidmuseum.org/guided-tours">https://www.intrepidmuseum.org/guided-tours</a></td>
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The line to the submarine Growler and exhibition may close early.  
Final Entry and Last Ticket sold one hour prior to closing.

Fall/Winter Hours (November 1 - March 31)

<table>
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<tr>
<th>Day</th>
<th>Hours</th>
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<tbody>
<tr>
<td>Daily (including Holidays)</td>
<td>10:00am - 5:00pm</td>
</tr>
<tr>
<td>Early Morning Tours (Weekends &amp; Holidays)</td>
<td>9:00am</td>
</tr>
</tbody>
</table>

The line to the submarine Growler and exhibition may close early.  
Final Entry and Last Ticket sold one hour prior to closing.

The Museum is closed on Thanksgiving and Christmas day.

Join as a Museum Member and experience everything Intrepid has to offer, for an entire year
A membership pays for itself after just TWO visits.

Learn, explore and play at the Museum all year long! Visit during one of our seasonal festivals, or drop by anytime for free programs like science demonstrations, talks, planetarium shows and more.

For information about Intrepid events: 
https://www.intrepidmuseum.org/PublicEventsCalendar.aspx

Example Events:
Planetarium Show: On the Wings of New York  Monday-Friday: 3:00pm
Planetarium Show: Biome Away from Home to January 26, 2020  Monday-Friday: 1:15pm
Operation Slumber  January 18, 25, February 1
Deep Space Exploration  January 26
Kids Week  February 15 – 22
The Cradle is preserving Long Island's rich aerospace heritage of discovery and inspiring future generations through science and technology. Over 75 air and space craft in 8 galleries chronicling 100 years of aerospace adventure.

Visit the Cradle with your children and grandchildren, explore their world-class aerospace history exhibits, talk to their knowledgeable docents, join in their events, watch a first run movie in their wide screen domed theatre, or enjoy an exciting show in the immersive, all-digital, JetBlue Sky Theater Planetarium. The Cradle currently features planetarium and Domed Theatre shows including: Volcanoes: The Fires of Creation; Apollo 11: First Steps; Backyard Wilderness; Train Like an Astronaut/Asteroids; Dream Big: Engineering Our World; Living in the Age of Airplanes.

Also, check the website for dates and times for the Interactive Educator-Led Space Lab Programs including: Current Night Sky; Space News & Asteroid: Mission Extreme; Solar System Tour; One World One Sky: Big Bird's Adventure. Space labs are held on Saturdays, Sundays, holidays and school breaks at noon and weekday mornings.

Usual Hours: Open 9:30-5:00, Tuesday through Sunday and Mondays that fall on holidays and school breaks.

For event details, go to: http://www.cradleofaviation.org/ or call (516) 572-4111

American Airpower Museum
1230 New Highway, Farmingdale, New York, 11735
At the northeast corner of Republic Airport

The American Airpower Museum is an aviation museum located on the former site of Republic Aviation at Republic Airport in East Farmingdale, New York. It maintains a collection of aviation artifacts and an array of aircraft spanning the many years of the aircraft factory's history.

Come to the AAM to see the P-51D Mustang acquired in 2018 and many other aircraft.

To book your flight please call: (516) 531-3950
AIAA Meetings

Forums  Events  Exhibit & Sponsorship  Courses & Workshops  Online Education

2020 AIAA Associate Fellows Induction Ceremony and Reception

6 JANUARY 2020  Orlando, Florida, USA

The Class of 2020 Associate Fellows will be officially recognized for their accomplishments in engineering or scientific work, outstanding merit, and contributions to the art, science, or technology of aeronautics or astronautics. Join us in recognizing these exemplary professionals during the Associate Fellows Induction Ceremony followed by a reception, to be held in conjunction with the 2020 AIAA SciTech Forum (AIAA SciTech) at the Hyatt Regency Orlando on Monday evening, 6 January.

AIAA Science and Technology Forum and Exposition (AIAA SciTech Forum)

6 JANUARY - 10 JANUARY 2020  Orlando, Florida

The AIAA SciTech Forum is the world’s largest event for aerospace research, development, and technology. The 2020 forum will bring together experts to share ideas on Fluid Dynamics; Applied Aerodynamics; Guidance, Navigation, and Control; Structures; and much more.

2nd International Academy of Astronautics (IAA) Conference on Space Situational Awareness

14 JANUARY - 16 JANUARY 2020  Arlington, Virginia

66th Annual Reliability & Maintainability Symposium (RAMS®)

27 January - 30 January 2020  Palm Springs, California

The Annual Reliability and Maintainability Symposium (RAMS®) is a yearly gathering of the product assurance disciplines where training, tutorials, and the latest technical practices, procedures, and results are presented in easy-to-utilize forums and proceedings.