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# POLISH-AMERICAN ENGINEERS ASSOCIATION

FOUNDED



IN 1934

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1 Watergate Drive South Barrington Illinois 60010, USA • [www.polishengineers.org](http://www.polishengineers.org)

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All members and friends of Polish-American Engineers Association are cordially invited to attend our meeting.

**DATE:** Friday, September 26<sup>th</sup> 2014

**TIME:** 7:30 p.m.

**PLACE:** Copernicus Center  
Kings Hall  
5216 W. Lawrence Avenue  
Chicago, Illinois

**SPEAKERS:** Michael Niedzinski, MS MBA  
Director of Standardization USA  
Product Development Mgr. Defense  
Constellium

**TOPIC:** Weight reduction program on Orion Crew Module program

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## Michael Niedzinski

Director of Standardization and Product Development Mgr. Defense  
Michael is responsible for introduction of aerospace and defense related products and technologies, developed by Global ATI Technology Group to industry and government agencies such as MMPDS, SAE, AA and Air Force. These range from the latest aluminum structural components, latest generation of aluminum alloys and manufacturing technologies, which optimize and facilitate assembly techniques. Ultimately these products become visible to Boeing, Lockheed Martin, Bombardier etc. he is also involved in direct contacts with several manufacturers of space launchers such as Boeing's Space Launch System and SpaceX's Falcon 9 etc. Michael received his BS and MS (thesis "Thermodynamics of argon-oxygen Steel making") from University of Illinois. Later he obtained an MBA from Illinois Institute of Technology. He holds several patents related to development of AIRWARE Aluminum-Lithium alloy

(2297-T87) used for the new generation of F-16 interceptor and Armor plate for Armored Personnel Carriers. During his thirty plus years in the industry he worked on projects ranging from aluminum automotive applications, architectural, nuclear and marine products, armored personnel carriers and seemingly mundane technology of rigid containers and food packaging. Last seventeen years were dedicated to Aerospace technology.

## ABSTRACT



The Orion Crew Module architecture is capable of supporting a crew of two, three or four and a demonstrable evolution path of up to six for challenging Design Reference Missions (DRMs) within the solar system. Lofted skyward on the NASA Space Launch System (SLS) two-stage launcher, the current architecture relies primarily on the legacy aluminum alloy 2219-T87 and several elements produced from AIRWARE® 2050. The demonstrable evolution path utilizes focused trade studies, including the assessment of the superior specific strength and stiffness performance of AIRWARE® 2050 for primary structural space vehicle components, such as the Orion forward and aft bulkheads, cone and barrel. Presentation will concentrate

on the methodology used in the trade study, fabrication challenges/solutions, characterization and deliverables offered by AIRWARE® 2050.

The presentation covers principles and applications of nondestructive testing techniques in modern quality control. It will be shown how simple visual checks and sophisticated, digitally processed ultrasonic and X-ray signals are critical for production or maintenance in almost all industry branches.

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## Administration Updates

**Annual Picnic** of Polish American Engineers Association took place on July 26<sup>th</sup> at the Fourth Lake resort. Close to eighty members and their families enjoyed beautiful weather, tasty food, exciting volleyball game and camaraderie. We would like to thank all those who chose to support our event and ask everyone to save June 27<sup>th</sup>, 2015 for our next year's picnic. We want to thank Grazyna Czyszczo, Andrzej Pawlowski, Marek Cyran, Ryszard Kaczmarek, Roman Korczak, Rene Pietrzyk, Danuta Szymulanski, Stefan Kaszuba and Nela Niedzinski for their tireless work to make our event successful.

Special thanks go to our new coordinator of the volleyball games, Renata Pacocha.

Beyond just providing an enjoyable time outdoors picnic was a financial success. Net proceeds from the picnic will provide an amount equivalent to one scholarship which we plan to award in September/ October of 2014.

As of March 1<sup>st</sup> PAEA started accepting applications for **2014 Ralph Modjeski scholarship**. Based on a number of excellent candidates four scholarships will be awarded during September / October 2014 meeting. We received fifteen applications with vast majority representing individuals with excellent credentials and resumes. This made it very difficult to select the recipients. Finalists are listed below. Final selection was based on current school ranking sophomore or junior, GPA and involvement in Polish community.

- ❖ **Martin Myszynski** - Rensseler Polytechnic Institute, Junior studying Electrical Engineering.  
*Martin assists his parents in the creation of the documentary about Rudolph Modjeski.*
- ❖ **Dariusz Prokopczuk** - University of Illinois Senior studying Electrical Engineering.
- ❖ **Patryk Giza** - Miami University Sophomore Electrical Engineering.
- ❖ **Peter Szemraj** - Rice University Sophomore Chemical Engineering.

## *Mark Your Calendar*

### **Polish American Engineers Association**

**Cordially Invites You to Banquet Celebrating the 80th Anniversary of the Association**

**To be held on**

**Saturday, the Fifteenth of November Two Thousand Fourteen at Six O'clock in the Evening**

**At**

**European Crystal Banquets  
519 W Algonquin Rd  
Arlington Heights, IL 60005**

We are happy to introduce an **upgrade to our web page**. Effective now we have a "Members Only" tab / section on our page. Access to this area is password controlled. Per the policy put forth by the Administration *login name* and *password* will be provided to members who paid their dues. Under this tab you will be able to find non-public materials such as meeting minutes, etc... Please note that under no circumstances, and in concert with current practice, personal data of our members, managed by the Financial Secretary, is NOT and will NOT be stored on the web page anywhere.

We have an invitation to **visit Fermi Laboratory** in Batavia in the fall of 2014. Will advise more details as they become available.

**2014 MEMBERSHIP DUES.** Please note that the dues schedule for 2014 did not change. **Dues are \$50 per year, senior citizens and students \$25 per year.** We strongly encourage you to pay your dues in January or, if not possible, in February. 2014 membership cards will be provided to all those who paid their dues. Questions? You may inquire at the meeting or send an email to: [paea.members@gmail.com](mailto:paea.members@gmail.com)

**As of August 31st 44 members complied and paid 2014 dues.**

You may send your dues directly to our Treasurer:

Mr. Richard Kaczmarek  
1725 S. Crescent  
Park Ridge, IL 60068

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## **General Interest**

### **Structural Engineers Association of Illinois SEA/OI Structures Symposium**

The 2014 Structures Symposium will take place on **October 22, 2014**, at Maggiano's 111 W. Grand Avenue, Chicago.

The Structures Symposium provides a forum for engineers to share analysis, design, and construction information from recent projects with unique and/or distinguishing characteristics. Attendance typically represents a diverse cross-section of the all aspects of the profession, including design, construction management, material suppliers, academia, general contracting, and owners' representatives.

The Symposium is comprised of a single day-long session including continental breakfast and a group luncheon. Attendees will receive 7.0 hours of continuing education credit for the Symposium (attendance is required the entire day to receive a certificate).

For more information see: <http://www.seaoi.org/symposia.htm>

### **ASME 2014 International Mechanical Engineering Congress & Exposition (IMECE 2014)**

November 14 2014 - November 20 2014, Friday – Thursday

Palais Des Congres, Montreal Quebec , Canada

The annual ASME International Mechanical Engineering Congress and Exposition is the premier global conference that focuses on today's technical challenges, research updates and breakthrough innovations that are shaping the future of engineering. The Congress convenes engineers, academics, scientists and technologists of all disciplines for the purposes of exploring solutions to global challenges and for the advancement of engineering excellence worldwide.

For more information see: <http://www.asmeconferences.org/Congress2014/index.cfm>

### **NBAA2014 – Business Aviation Convention & Exhibition**

Oct. 21–23, 2014 • Orlando, FL

Orlando Hosts the World of Business Aviation in 2014 .

Join NBAA for the Business Aviation Convention & Exhibition (NBAA2014) – the world's largest and most important business aviation event. Ranked as the fourth largest tradeshow in the U.S., NBAA2014 will feature over 1,000 exhibitors showcasing the latest products and services in the industry, nearly 100 side-by-side business aircraft at the static display, opportunities to network with 25,000 business aviation professionals and dozens of education sessions to ensure you are operating as safely and efficiently as possible.

For more information see: <http://www.nbaa.org/events/bace/2014/>

### **Art for Heart IV – October 4 – 11, 2014; Polish Museum of America**

**“Art for Heart 2014”- A week of contemporary art to Benefit Gift from the Heart Foundation and the Polish Museum of America: Sat – Fri, Oct. 4<sup>th</sup>-11<sup>th</sup>.**

[www.artforheartchicago.org](http://www.artforheartchicago.org)

Continuing the tradition of successful ART FOR HEART shows since 2010, the Polish Museum of America and Gift from the Heart Foundation (Dar Serca) are teaming up to present ART FOR HEART 2014!

The program this year; consisting of an **Opening Gala October 4th**, a **Multi-Organizational Networking Evening October 9th**, and new this year a **Singles Night October 10th**; promises to be spectacular!

As the response to the Call for Artists was so great and the applications so strong, the jury had a difficult time choosing the 17 very talented artists who will be participating this year. This unique opportunity for Chicago's talented Polish and Polish-American artists to share their works with the community is focused on bringing the community together to support two important Chicago foundations.

Everyone is cordially invited to the **Exhibit Opening**, which will be **Saturday, October 4<sup>th</sup> from 7 to 11pm**, in the Polish Museum of America's Sabina P. Logisz Great Hall. Guests will have the chance to meet the artists, and view and purchase their works; all while enjoying great music, appetizers, a raffle, and a cash bar. There will be painters, photographers, and a jewelry designer!

Everyone is also invited to the **Multi-Organizational Networking Evening, Thursday, October 9<sup>th</sup> from 6 to 10pm**, also in the Polish Museum of America Great Hall. This event, supported by the Polish-American Chamber of Commerce, the Chicago Business Club, and several other organizations; will be a great opportunity to expand networks of interesting people from many industries and organizations; in the beautiful setting of contemporary art. There will be appetizers, music, a cash bar, as well as an opportunity to purchase the beautiful works.

The Polish Museum of America is located at **984 N. Milwaukee Ave., Chicago, IL**. Tickets will be \$10, available at the door on a first-come basis while they last. All original artwork, as well as less expensive prints, will be available for sale. Souvenir program books will be available (while supplies last) featuring the hosting foundations, all the artists, and the official Art for Heart 2014 sponsors. 100% of proceeds will jointly benefit Gift from the Heart Foundation (*Dar Serca*) and The Polish Museum of America.

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