Meeting Registration: PLEASE NOTE**: All reservations must contact Trevor Jones at 215-721-1502 ext 1220 or on our website at http://philadelphia.asminternational.org no later than 1:00 PM on the Tuesday before the meeting to guarantee availability.

Speaker:
JOHN BABICH
2017-2018 Chair of the ASM Brandywine Chapter

John Babich is a self-employed metallurgical consultant focusing on heat treatment and welding of steel alloy plates. John worked as an area metallurgist in roles in R&D, Quality Control and Customer Technical Services for Lukens Steel in Coatesville, PA for 38 years. In these roles, he supported various departments including the melt shop, rolling mill, clad, and heat treating. He retired from Lukens as the Lead Metallurgist in QC in 2015 and was the Chairman of the Brandywine Valley Chapter of ASM in 2017/18. Prior to working at Lukens, John worked for Babcock and Wilcox in Beaver Falls, PA, specializing in heat treatment and straightening of alloy steel tubing. John has a BS in Metallurgy from Penn State.

Presentation Overview:

Metallurgy of Ballistic Resistant (Armor) Steel Plates

In this presentation, John Babich will cover the different types of armor steel plates produced by ArcelorMittal that are used by the US military for light armored vehicles (LAVs) like the HMMWV and MRAP and heavy armored vehicles including the main battle tank, M1 Abrams. These plates offer unique properties being very hard while also ductile. The presentation will review the processes of manufacturing and testing, including melt shop and heat treating processes, as well as mechanical and ballistic testing procedures. The Coatesville and Conshohocken facilities of ArcelorMittal (Lukens / Bethlehem Steel / ISG / ArcelorMittal) are the major supplier of armor steel plates to the US military.

Technical Chairperson:
Al Singmaster

Meeting Sponsors:
A.L. Singmaster Personnel Services and Hoeganaes Corporation

Joseph Ambler Inn
4:30pm: E&O Meeting • 6:00 - 7:00pm: Networking Hour • 7:00pm: Dinner/Presentation

Menu: Choice of Parmesan Crusted Chicken Breast with Lemon Chardonnay Sauce or Pasta Primavera with Seasonal Vegetables.
(all entrees served with Chef’s Selection of Potato and Vegetable, Coffee, Tea and Iced Tea). Dessert: Cheesecake with Raspberry Sauce.

Prices: Members and Guests $35 | Retirees $24 | Students and Faculty $15

This Month’s E-Newsletter is Sponsored by:

CRAIG CLAUSER
ENGINEERING CONSULTING, INC.

Craig D. Clauser, P.E.
President
1610 Hunter Circle
West Chester, PA 19380
Phone (610)640-3370
Fax (610)640-3361
cclauser-cceci@comcast.net

Struers Inc.
24765 Detroit Road
Westlake, Ohio 44145
Direct 216.364.2266
Telephone 440.871.0071
Fax 440.871.8186
888.STRUERS (888.787.8377)
www.struers.com
MESSAGE FROM THE CHAIR

October 2018

The tour and lecture by Dr. Matthew Adler at LT1 and our dinner there were superb, and we were joined by ANST members as well, and had a large ASM turnout. For October, we return to the Joseph Ambler Inn. Our speaker will be John Babich who was the 2017-2018 chair of the ASM Brandywine Chapter. His very interesting topic, as a modern day knightly armorer, will be the metallurgy of ballistic resistant (armor) steel plates. This will be based on his long experience in that field and he will discuss different types of armor steel plate used by the U. S. military for such diverse vehicles as light armored vehicles (HMMWV and MRAP) and heavy armored vehicles like the M-1 Abrams tank.

Come on out; eat, drink, learn, and enjoy, let alone earn 1.0 PDH meeting credit for professional engineers, as we continue our journey into our Centennial celebration. Come to the meetings, read the Newsletter, and watch our website and national’s for all the excitement coming in this 2018-2019 Centennial year’s new and unique programming as it is heading your way!

Sincerely,
Norman S. Marcus, P. E.
Chair, 2018-2019

THE CHAPTER’S 100TH IS COMING!

The 100th anniversary celebration is beginning to take shape, both for the gala celebration and fund raising for the centennial scholarship program. Just to remind everyone, the gala will be held at the Hyatt Bellevue on Broad Street in Philadelphia—the same building as the chapter’s first meeting. The gala will be on March 21, 2019—100 years to the day from the first meeting.

Currently, the committee is working on details of the gala including menu and program. We anticipate a number of attendees both from the current ASM International staff and from past ASM International presidents. You will shortly be receiving reminders to save the date for this once in more than a lifetime event.

Also, ASM International has established a website where you can make donations to the chapter’s centennial fund. The link is at www.asminternational.org/web/philadelphia-chapter/100th-anniversary-sponsorship. All the proceeds from donations through this site are transmitted to the chapter, there is no service fee deducted. We will also be contacting all chapter members and supporters directly about the centennial fund raising effort, which is ramping up this fall.

So save the date for both you and your spouse, watch the monthly newsletters for more details, and consider contributing to making the chapter’s centennial a rousing success!
2018 HENRY M. ROWAN MATERIALS TEACHERS CAMP

The third Henry M. Rowan ASM Materials Camp-Teachers (or ASM Teachers Camp) Year 2 was held from July 23th to the 27th at Rowan University. As in the first two years, it was a collaborative effort between Rowan University’s Henry M. Rowan College of Engineering and the Liberty Bell Chapter of ASM, as well as ASM Materials Education Foundation. The funding for the camp came from the initial grant by the Henry M. Rowan Family Foundation, Inc. back in 2013.

The teachers attending were teachers that have been to a previous teachers’ camp through our ASM Materials Education Foundation. A total of 28 teachers attended and came from as far as CA, TX, AL, LA, RI, MA, SC, NC and OH. Several of the teachers were attending for the third or fourth time. The teachers are taking back even more materials information than ever to their classrooms that range from 12th grade down to 5th grade.

The teachers that lead the course are trained and provided by ASM Materials Education Foundation and are the best. We were fortunate in having Debbie Goodwin as the camp’s co-lead Master Teacher. She recently retired after 31 years of teaching high school and middle school science in biology, chemistry, and general science and specifically taught Materials Science and Technology (MST) for 17 years. She has also served as a Master Teacher for ASM Teachers Camp program since 2002.

Joining Debbie and Andy was Scott Spohler who has 24 years of teaching experience in physics, physical science, engineering and a host of other science classes. Many years ago, Scott received his bachelor’s degree in Natural Science from Adrian College in MI and just completed his masters in Curriculum and Development from Ohio Dominican University in Columbus, OH. He has made presentations at the Science Teachers Council of Ohio conference and is hoping to present at NSTA next year. For the last two years, Scott has been involved with The Ohio State University and the Math Science Partnership to bring materials science into the 9th grade science curriculum.

Joining Scott as well as Debbie was Briana Richardson. She has been teaching for the past eight years at Madison-Plains HS outside of London, OH. She has taught physical science, chemistry, including AP chemistry, physics and biology. For the past three years, Briana has been part of an OSU Math-Science Partnership focused on incorporating materials science into the “regular” science curriculum.

The facilities at Rowan University’s engineering building were ideally suited to our camp, especially now since the new wings to the engineering buildings were completed. The classroom was adjacent to the spacious lab room in one of the two new wings where various experiments and hands-on demonstrations were performed. The support given by Rowan’s Henry M. Rowan College of Engineering was simply tremendous, including feeding and housing the 12 participants plus the master teachers. Two people need to be singled out for their specific support – Doug Cleary – Associate Professor, and Cherish DiSante – Assistant Director. Doug, in particular, was available to render whatever support was needed all week and helped with the setup on Sunday. Cherish helped handle the behind the scenes logistics of feeding and housing the teachers.

The week basically consisted of reviewing and deepening Year 1 camp contents that the 12 teachers were previously given. It also included troubleshooting labs and demos that teachers have tried, but weren’t fully successful. It also allowed teachers to perform/practice labs and demos in a supportive environment. Participants were encouraged to share experiences of incorporating the Year 1 camp curriculum into their classrooms to include lessons learned and to connect camp content with practical applications and real world examples, like the ongoing SEPTA car materials problem.

Unfortunately, Virginia Smith, the daughter of Henry Rowan was unable to attend. She expressed that her true reward – and the Foundation’s reward as well, is knowing that this teacher’s camp continues to inspire teachers to take back even more about the world of materials to include new and enhanced labs experiments, and that the teachers will instill in their students the fascinating world of materials as an integral part of the science and math curriculums that they teach year after year. This message and excerpts of her message to the teachers in 2017 was communicated to the teachers at the awards luncheon on Friday. As a member of the Board of Trustees at Rowan University, she helped with setting up the initial meeting with the College of Engineering back in November of 2015 that made this camp possible. We want to gratefully acknowledge the Henry M. Rowan Family Foundation for their generous grants that made this all possible.
2018 SUSTAINING MEMBERS
A.L. SINGMASTER PERSONNEL SVC.
APOLLO DESIGNS
B & G MANUFACTURING COMPANY, INC.
CONSULTING ENGINEERS & SCIENTISTS, INC.
CORROSION TESTING LABORATORY
CRANG CLAUSER ENGINEERING CONSULTING, INC.
DANAD CORPORATION
DELAWARE VALLEY UTILITY ADVISORS
ECRI-MSLB
ELEMENT MATERIALS TECHNOLOGY
EXELON POWER LABS
FORENSIC SCIENCES INCORPORATED
FREDERICKS COMPANY/TELEVAC DIVISION
HOEGANAES CORPORATION
IPSEN INC.
LABORATORY TESTING INC.
LECO CORP.
LTJ ENGINEERING SERVICES
MAGNA-TECH P/M LABORATORIES
METLAB CORP.
PENN STAINLESS PRODUCTS
PRESSURE TECHNOLOGY, INC.
RHEUS HEAT TREAT
ROBERT WOOLER COMPANY
SOLAR ATMOSPHERES INC.
SOLAR MANUFACTURING INC.
STRUCTURE PROBE INC.
STRUERS INC.
SUGEO TUBE COMPANY
TINNUS Olesen TESTING MACHINE CO., INC.
WE AUTOMATION

INSTITUTIONAL MEMBERS
DREXEL UNIVERSITY
TEMPLE UNIVERSITY
UNIVERSITY OF PENNSYLVANIA
ROWAN UNIVERSITY
VILLANOVA UNIVERSITY
WILLIAMSON COLLEGE OF THE TRADES

Welcome New Members!

Jonathan Conroy
S-Bond Technologies
James J. Sutcliffe
Penn Engineering
Lou Butcher
Lab Testing, Inc.

SEPTEMBER KICK-OFF MEETING EXCEEDS EXPECTATIONS

Our Philadelphia (i.e. Liberty Bell) Chapter kicked off its centennial year with a very well
attended tour and meeting at Laboratory Testing one of the largest independent testing
laboratories. LTI a well-known leader in Material Testing and Calibration Services has been
providing business critical services for customers in many industries including, aerospace,
defense, power generation, medical and transportation since 1984. LTI has been a long-time
sustaining member of the Philadelphia Chapter and supporter in general of ASM. Attendees
were able to get a tour of LTI’s new state of the art Fracture and Fatigue Lab, Destructive
(Mechanical Testing, Chemistry, and Metallurgical Labs) and Non-
Destructive (Radiography and Ultrasonic) Testing Areas.

Following the tours, social hour, and dinner attendees were able to hear an interesting presentation on “Practical Frac-
ture Control: NASA CASE Study” by LTI’s Senior Manager of Fracture
Mechanics, Dr. Matthew Adler. The presentation focused on
practical aspects of applying fracture mechanics to real world
structures situations, with emphasis on experimental fracture
mechanics as a tool for performing damage tolerance evaluations.
Relevant anecdotes, experiments along with topical real life failure
events were used to highlight the general principles and methods
for performing damage tolerance.

The attendance for the tour and meeting exceeded expectations.
Attendees had nothing but positive feedback about the tour /
meeting format along with our LTI hosts for the 100th year kick-off
event.

The Philadelphia Chapter would again like to thank Michael
McVaugh, Dr. Matthew Adler, Michael Miller, Alan Fabiszewski,
Sharon Bentzley, Drew Batten, Tim Snyder, Rob Richards and the
rest of the LTI Employees for opening up there facility to not only
host but help to make our September meeting a well-received
success.
Directions to Joseph Ambler Inn:

From the PA Turnpike (East - West)
Exit at Fort Washington (Exit #339) and follow Rte. 309 North to Stump Road (traffic light — Acura Dealer). Turn Right onto Stump Road, turn Left onto Horsham Road (traffic light) and Right into our driveway.

From Center City, Philadelphia, the Main Line and City Line Ave
Take the Schuylkill Expressway West (I-76) to I-476 North to the PA Turnpike East. Go EAST and exit at Fort Washington (Exit #339). Follow Rte. 309 North to Stump Road (traffic light — Acura Dealer). Turn Right onto Stump Road, turn Left onto Horsham Road (traffic light) and Right into our driveway.

From PA Turnpike/NE Extension (Rte 476) — Lansdale Exit(#31)
Turn Left from the exit ramp onto Sumneytown pike, follow about 5 miles & turn left onto US-202 North. Turn Right onto Horsham Road and Left into our driveway.

UPCOMING EVENTS

<table>
<thead>
<tr>
<th>Date</th>
<th>Day</th>
<th>Speaker/Topic</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>11/15/18</td>
<td>Thursday</td>
<td>Young Members Night</td>
<td>Drexel University</td>
</tr>
<tr>
<td>1/17/19</td>
<td>Thursday</td>
<td>Sauveur Award Night</td>
<td>Joseph Ambler Inn</td>
</tr>
<tr>
<td>2/21/19</td>
<td>Thursday</td>
<td>Continuing Education Night</td>
<td>Joseph Ambler Inn</td>
</tr>
<tr>
<td>3/21/19</td>
<td>Thursday</td>
<td>100th Anniversary Celebration</td>
<td>Bellevue Hotel</td>
</tr>
</tbody>
</table>

Like us on Facebook!  
Follow us on: LinkedIn  
Check out our website!  
http://philadelphia.asminternational.org

This Month’s E-Newsletter is Sponsored by:

L&L Special Furnace Co., Inc
Industrial Furnaces, Ovens and Quench Tanks
Heat Treating Furnaces
- Highly Uniform
- Custom & Standard
- 65 Years Experience
- Atmosphere Controlled
- Local Service
YOUR THERMAL INVESTMENT DESERVES SPECIAL TREATMENT
877.846.7628 • llfurnace.com
20 Kent Road Aston, PA 19014

FOR ALL YOUR METALLOGRAPHIC NEEDS SINCE 1968.
1-800-828-6666  www.metlabcorp.com