**SPEAKER:**
JOHN TIRPAK, P.E., FASM
SCRA Applied R&D

**TOPIC:**
A Brief History of the
HL Hunley Civil War Submarine

The H.L. Hunley was the first submarine to sink an enemy ship in combat on February 17, 1864. The Hunley was also lost that day and successfully recovered from the sea off the coast of Charleston, South Carolina, U.S.A., in August of 2000. The H.L. Hunley represents an exciting future in maritime archaeology and conservation science. From its shrouded birth to its climactic sinking to the present day, the H.L. Hunley continues to draw attention from local traditionalists, national historians, and international scientists. Ultimately the H.L. Hunley represents 5 significant stages of its history: its design and manufacture, its wartime service which culminated in its loss, its recovery, its excavation and long term conservation. This presentation will stitch together the past, present and future as he provides highlights to the vessel's construction, loss, recovery and preservation. This presentation was originally prepared by Mr. Paul Mardikian, the Senior Conservator of leading a teamed effort to preserve the H.L. Hunley. The presentation was made at the Fellows Breakfast 2007 in Detroit. Since then, Mr. Jon Tirpak has been granted permission by Clemson University to share this exciting story with Chapters of ASM International.

Mr. Jon Tirpak is currently Senior Program Manager for the SCRA Applied R&D Advanced Materials Division in Charleston, South Carolina. He is responsible for investigating, developing and implementing processes and technologies within the nation’s foundry and forging industries, to reduce lead times and costs and to improve quality of complex metal shapes. He is the Executive Director of the Forging Industry Association - Department of Defense Manufacturing Consortium and Program Manager of the Defense Logistics Agency's FAST Program. Mr. Tirpak earned his BS in Metallurgical Engineering at Lafayette College in Easton, PA and his MS in Materials Engineering at the University of Dayton in Dayton, OH. He was commissioned by the US Air Force in 1982 as a 2nd Lieutenant, working on structural failure analysis on various systems while serving at the Air Force Materials Laboratory. His second tour within the Ballistic Missile Office involved integrating the Air Force’s nuclear testing requirements which involved myriad materials and systems ultimately tested beneath the ground at the Nevada Test Site. In 1988, he departed the Air Force as a Captain, trading his blue uniform for green hiking togs to hike the entire Appalachian Trail from Georgia to Maine. After completing the trail and traveling extensively through Europe and the States, he resumed his materials engineering career with a position at Universal Technology Corporation in Dayton, OH and then to Aeroquip Corporation in Ann Arbor, MI. Ultimately, he landed in Charleston SC with SCRA Applied R&D managing programs and developing new business for the company. He is a licensed metallurgical engineer in South Carolina and Fellow and past trustee of ASM International. Mr. Tirpak has chaired the New Products and Services Committee and the Federal Affairs Committee. He has served on many other communities and supported strategic planning for the Society. Presently he serves on the Finance, Investment, 100th Anniversary Celebration, and Web Committees of ASM International.

**Technical Chairperson:** Bob Rich, ASNT.

**Meeting Sponsors:** Craig Clauser Engineering Consulting Inc. and Rex Heat Treat

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Dinner Menu: Buffet of: Chicken Divan, Flounder Stuffed with Spinach & Cheese, Veal Scaloppini, Garden Salad, White & Wild Rice Mix, Glazed Baby Belgian Carrots and Assorted Layer Cake.

**Social Hour:** 6:00 - 7:00 p.m. **Dinner:** 7:00 p.m.

**Prices:** Members & Guests: $33.00; Retirees: $22.00; Students: $15.00

Spouses and guests are invited and welcome. **Meetings held at Williamson Banquet, on the corner of Rt. 611 (Easton Road) and Blair Mill Rd., Willow Grove, PA 19044** For directions: www.williamsonrestaurant.com.

**Meeting Registration:** **PLEASE NOTE**: Reservations must be made no later than 5 pm on the Tuesday before the meeting to guarantee dinner availability. Register to attend our meeting on our website [http://philadelphia.asminternational.org](http://philadelphia.asminternational.org). If you have a large group attending or do not have access to the web site, please contact Don Jordan at 215-721-1502 ext 206 to register.

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Chairperson’s Message
September, 2013

When I attended Leadership Days in Cleveland in July, I went with an open mind. What I left with was a great sense of the direction ASM is headed and a how to help guide the Liberty Bell Chapter along the way. It simply evoked more excitement in me for the coming ASM season as the Chapter Chair. Now that the new season is upon us, I hope everyone can share in that excitement. We have a tremendous list of technical presentations, starting out with a historical-based talk from Mr. Jon Tirpak (FASM) about the H.L. Hunley, the first submarine to sink an enemy ship in combat.

I want to welcome back the members of ASNT for another joint meeting with ASM. Every year we have a great turnout because both professional societies support the joint effort well. It will be tough to match the great presentation last year by Mr. Dick Boak of Martin Guitar, but I’m certain Mr. Tirpak is up for the challenge. I’m certainly intrigued since my wife’s undergraduate and graduate degrees are in ‘Classical Archeology and Anthropology’ and ‘Museum Studies’, respectively, and I share in her love of history and conservation. If history does not intrigue you as much as it does us, attend the meeting to meet some great people, network with others in your industry, and just have a good time.

I want to add an important note regarding the Chapter Newsletter. We have begun using the ASM International system to email copies of the Newsletter to our members. If you or anyone you know are not receiving the newsletter, please log onto the ASM International website and update your email address.

Sincerely,
Brian Gorney
2013-2014 Chapter Chairperson

Upcoming Events...

9-19-13 Thursday Opening Night - Topic: Brief History of the HL Hunley Civil War Submarine, Williamson Banquet, Willow Grove, PA
1-16-14 Thursday Sauveur Award Night - Topic: Hydrogen Embrittlement Matters, Williamson Banquet, Willow Grove, PA

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Materials Camp 2013

The 91 applicants for 2013 were slightly down from the record 119 set in 2012, but were still a very healthy number. The talent level in the class remains very high. The 28 students selected for our 9th Annual Materials Camp held at Drexel University June 24-29 were of a very high caliber.

At the start of this year’s activities the camp was dedicated to the memory of long-time Materials Camp Chair Tom Reid, who sadly passed away earlier this year. Tom’s wife and daughter attended the camp opening and expressed their thanks and sentiments.

The faculty and graduate students from Drexel’s Department of Materials Science and Engineering navigated the class through an exciting combination of classroom and laboratory sessions. They experienced all phases of Materials Engineering and used the knowledge acquired in a team activity - the design and construction of a small composite beam with the goal of the highest strength to weight ratio.

On the Wednesday, the Materials Engineering Group at Boeing conducted tours of their materials department, exposing the class to real-life materials being tested in the Metallurgical Labs, and the CH-47 Chinook helicopter assembly line. Our friends at Boeing then conducted several classes at Drexel University.

Materials Camp has enabled us to expose these bright young minds to the field of Materials Science and Engineering. Many have expressed an interest in pursuing careers in this field.

We gratefully acknowledge and thank Drexel University, Department of Materials Science and Engineering, and Boeing Rotorcraft for making available their facilities and staff.

The following companies provided the financial donations which enabled us to conduct this very beneficial program. Without their generosity, Materials Camp would not be possible.

Boeing Rotorcraft
Johnson Matthey
LTK Engineering Services
Penn Stainless Products, Inc.
Mr. Dave Von Rohr

ArcelorMittal
Engineered Arresting Systems
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Laboratory Testing Inc.

We have started the planning process for the 2014 Materials Camp. Anyone interested in donating or attending contact John Ely at consult-ely@comcast.net or obtain additional information from our web site: www.philadelphia.asminternational.org.
Awards Announced at May 2013 Meeting

The following awards were announced at the May meeting:

Delaware Valley Materials Person of the Year .................. Ron Smith, FASM
Adolph Schaefer Special Achievement Award .................. Al Singmaster
Meritorous Service Award ......................................... John Janiszewski
Outstanding Company Support Award .......................... Laboratory Testing Inc.
Philadelphia Chapter Distinguished Service Award ......... Ed Neu
President's Award .................................................... Brian Gorney
Young Member Award .............................................. Cole Smith
Metallurgical Engineering Assistant's Award ................... Frank Rapine

The following two awards will be presented in 2012-13:

William Hunt Eisenman Award ................................. Diane Chong, Ph.D.
Albert Sauveur Lecture Award ................................. Richard Gangloff, Ph.D.

Welcome New Members

Daniel P. Schmidt    US Army - ARDEC
Jim Fraley         American Flux & Metals
Hank Limper        Houghton International
Rebecca M. Morris  ACI Technologies
Rachel Piccari      Metlab Potero
Sam Reynolds       
Patrick G. Doyle    Navair - Lakehurst
Kirk S. Grassett   Boeing Co.
Ted Saul           Dana Drive Shaft Products LLC

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Mission Statement -
ASM International, Philadelphia "Liberty Bell" Chapter

The Philadelphia "Liberty Bell" Chapter of ASM International supports the development and continuance of the materials industry in the Philadelphia area. Chapter activities strive to inform the local technical community of new developments in materials, raise the visibility of the materials industry, provide educational opportunities in materials technology, recruit new people and organizations into materials-related activities, and provide networking opportunities for members of the materials community. The Chapter works with ASM International to use our joint resources to accomplish this mission.

For more info about the ASM Liberty Bell Chapter...
Contact Chapter Chairperson Brian Gorney at 800-219-9095 or email bgorney@labtesting.com.

To ensure you receive your E-newsletter and yearbook:
Please update your membership listing or your company affiliation listing. You can do this by calling Membership Service, ASM International at 1-800-336-5152 or using the ASMI website at www.asminternational.org. This will permanently update your information. We depend on ASM International to receive our updated Chapter roster.

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