ASM-International’s 100th Anniversary &
The 71st Woodside Lecture

THE HISTORY OF CASTING STEEL

This month ASM-Detroit will be celebrating not only the 71st Annual Woodside Lecture, but ASM-Detroit and ASM-International’s 100th Anniversary. Recognizing that in a dynamic industry there was a need for the transfer of previously jealously-guarded trade secrets, William Park Woodside set out to organize a club which would stimulate a mutual exchange of ideas. On October 4, 1913 William Park Woodside called the first meeting of the Steel Treaters Club at the old Fellowcraft Club in Detroit. The meeting was attended by a group of 18 men who started sharing metallurgical and technological advances. In 1915, the group began admitting technical members. In 1918, the name was changed to the Steel Treaters Research Society of Detroit and the very first standards activities were started. This effort led to publications that described the proper heat treatment practice necessary to produce the desired physical properties in steels. The club prospered and within 5 years had over 1,200 members.

By 1919, the group had expanded to 13 states with 236 members and the exchange of information between the members was growing. In the following year; Col. Albert E. White of the American Steel Treaters Society of Chicago combined his group with the fledgling organization and the name of the Society was changed to the American Society for Steel Treating. In 1933, the name was changed to the American Society for Metals which remained the same until 1987 when it was changed to ASM International.

In 1938, the silver anniversary, William Park Woodside was named president of the society. Bill Woodside served ASM for over 43 years. His life span covered a period of great technical advancements to which he contributed much. Of all his many accomplishments, he was proudest of the role he played in spreading knowledge. ASM International is a living monument to the basic integrity of his idea. The annual Woodside Lecture serves to remind us that one of the prime purposes of ASM is to promote the free exchange of metallurgical information.

Throughout our 100 years, ASM-Detroit has grown, prospered and adapted to industry ups and downs. Emphasis has remained true to the original idea that was William Woodside’s founding premise. In addition to sharing industry standards and practices, ASM has evolved into an organization that also promotes the profession of materials science through student and teachers outreach programs.

The very first Teachers Camp was started by Dr. Kathy Hayrynien, FASM, a past chair of ASM-Detroit, in 2002 in Ann Arbor, MI. This unique program, held in the summer for a week, prepares teachers to teach materials science in the classroom. This idea is fundamental to the promotion of student outreach. Teachers are taught simple, unique activities and experiments that are intended to excite students and peak their interest in materials science. Realizing that one teacher can reach more students than ASM can, this program has continued on page 6

Meeting: Monday, May 13, 2013

Venue: Vladimir’s, 28125 Grand River Ave., Farmington Hills
For reservations contact the Chapter Office at: (586) 573-0700 or email to asmduetichapter@gmail.com before Friday, May 10th.
Dinner tickets are $25 for members with reservations; $30 for non-members or those without reservations; $20 for retirees or the unemployed and $5 for students.  
5:30 p.m. Social Hour • 6:30 p.m. Dinner • 7:00 p.m. Meeting
Chairman’s Message

As we come to the end of our 2012-2013 year, I want to thank the Detroit Chapter for the opportunity to serve as your Chairperson. We have seen a very successful year. We held a great Joint ASM/AFS Golf Outing last summer. We held our annual Joint ASM/AFS Technical Meeting in March and we hosted our ASM International President, Dr. Mauer, in February and our very first Student Mixer in March. All these events were a great opportunity for interaction and support from both our professional members as well as our student members.

Our Student Mixer Night was held at Conor O’Neill’s in Ann Arbor on March 28th, see picture below. We had over 30 attendees and great interaction with the various groups of students. A simple buffet was served and special thanks to RTI Laboratories and Joy Works for sponsoring this event. This success is refreshing being that our Executive Committee brainstormed on ideas to replace our University Night which has seen reduced attendance each year. Based upon the student response to this type of event, planning is already being made for additional mixers in the coming year.

Lastly, we cannot forget the 100th Anniversary of both the Detroit Chapter; as well as ASM International. One hundred years ago this October, William Woodside and a group of 18 men met to discuss previously held trade secrets for the advancement of steel treating. As you may recall, this is shortly after the Titanic catastrophe. Steel treating was the answer to this terrible tragedy and out of it was born a society called ASM International. More history on the how ASM came to be is contained in this newsletter. I, personally, am proud and honored to have served this great organization in the capacity of Chair.

As most of you are aware, our Chapter Administrator; Caryn Ruzich, has been going through medical issues over the past several years. At last, some relief is in sight; please keep her in your thoughts and wishes. You may contact me anytime at asmdetroit.chair@gmail.com or Caryn at asmdetroitchapter@gmail.com and it is my hope to see you at our May 13th 100th Anniversary celebration.

USAMP Receives $6 Million Award


USAMP, a collaborative organization of Chrysler Group LLC, Ford Motor Company and General Motors, will work in cooperation with the A/SP on the project to demonstrate the applicability of ICME for the development and deployment of 3GAHSS for passenger vehicle weight reduction. The four-year project is slated to begin by early spring.

“Advanced high-strength steels have demonstrated significant potential for increased vehicle lightweighting,” said Lou Hector Jr., General Motors technical fellow and USAMP’s technical program leader on the project. “Since our existing infrastructure is built around conventional steels, it is critical to develop advanced steel grades that can be formed utilizing this very same infrastructure, thus reducing major overhauls of the manufacturing process.”

Although early generations of AHSS are being used in numerous automotive applications today, the 3GAHSS project goal is to create a product that is high strength, ductile and uses existing conventional steel infrastructures, helping reduce costs. “The U.S. automakers are committed to developing and using materials in ways that reduce costs, enhance fuel economy and deliver uncompromised safety,” said Steve Zimmer, executive director of USCAR.

Phase I of the project will focus on “Model Development and Model-Level Validation.” This phase will integrate results from existing computational and experimental methodologies, spanning numerous length scales, to develop a suite of models to predict the properties of 3GAHSS. Phase II of the project will focus on integration and design. Modeling based upon manufacturing process and performance simulation modules for 3GAHSS will be used to simulate forming and performance of structural components and of an automotive assembly consisting of at least four reduced weight 3GAHSS structural motor compartment elements.
Special Thanks To Our Social Hour Sponsor

ASM/AFS Joint Golf Outing-Make Plans Now!

The annual ASM/AFS joint golf outing will once again be held on Saturday, August 17th at Fellows Creek Golf Course in Canton. This is a great opportunity to have some fun and help support the future of engineering here in Michigan.

The day will begin at 8:00 am with a shot gun start, 18 holes of golf with cart, lunch at the turn, beverages on the course and complimentary beer pitchers during a buffet dinner as well as door prizes and course contests. This year, every participant will also receive a free round of golf courtesy of Fellows’ Creek Golf Course.

Our annual golf outing is one of only a few fund raisers for our chapter. Proceeds from this event directly fund student scholarships and ASM Teacher’s Camp, so we encourage you to come out and bring a friend or colleague for a great day on the links and help us support future material engineers.

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MEET THE CANDIDATES

Election of One (1) New Officer

Eric D. McCarty is President of Materials Technologies Consulting providing technical project management services for advanced materials research projects. Eric earned his Bachelor of Science and Master of Science degrees in Metallurgical Engineering from Michigan Technological University and his MBA from Oakland University in 1990, 1993 and 2000 respectively.

Eric worked for Chrysler for 14 years working with chassis and powertrain materials. He left in 2008 to obtain Project Management Certification from the Program Management Institute and start his own company. Since then he has been the technical project manager for a diverse array of projects for clients such as the U.S. Army, USCAR, USAMP and the A/SP ranging from ceramic thin films, advanced casting materials and processes, tooling optimization, nonlinear deformation in steel, and more recently a four year Integrated Computational Materials Engineering for third generation advanced high strength steel. He is a member of ASM (Detroit Chapter Executive Board), AFS, MPIF and PMI. Eric is current Education Chair on the ASM-Detroit Chapter Executive Committee.

Election of Two (2) New Executive Committee Members

Michael Blazejewski started his career as a Technical Writer for UpJohn Industries in Kalamazoo, MI. After two years of writing and teaching an in-house computer information retrieval class, he took a position as a Senior Chemist with Ann Arbor Technical Service in Ann Arbor, MI. There he worked as an analytical chemist for eight years testing water, air, and soil samples for volatile and semi-volatile compounds using GC and GC-MS EPA test methods.

Presently, Mike is a Technical Service Representative with Park Metallurgical in Detroit. After eleven years as the Main Lab Supervisor for Park, he took his current position. Park sells a variety of heat treating salt products around the world for salt bath heat treat applications. Also, he offers technical support on Park’s stopoff/protective coatings products. Mike works out the Detroit office, but travels to help customers on a regular basis. Mike earned a “Heat Treat Specialist” certificate through The Metal Treating Institute, and graduated from MIT’s “YES” program. Mike is current Entertainment Chair on the ASM-Detroit Chapter Executive Committee.

Alan Luo received his Ph.D. in Engineering Materials from the University of Windsor (Windsor, Ontario, Canada) in 1993, M.S. and B.S. degrees from China in 1987 and 1984, respectively. Dr. Luo joined General Motors Research and Development Center (Warren, MI) in 1998, and is currently GM Technical Fellow working on light metals and manufacturing processes for lightweight structural applications. Dr. Luo is an Adjunct Professor of Materials Science and Engineering at the University of Wisconsin-Madison and the Mississippi State University. He also serves as the chair of the Non-Ferrous Committee of the Society for Automotive Engineers (SAE).

Alan Luo has 14 patents and more than 150 technical publications in continued next page
Meet the Candidates (continued)

lightweight materials, advanced manufacturing and automotive applications. He has won two John M. Campbell Awards for his outstanding research, and three Charles L. McCuen Awards for research applications at GM. He received 2013 Brimacombe Medalist Award from TMS (The Minerals, Metals & Materials Society), 2009 USCAR (United States Council for Automotive Research) Special Recognition Award, and 2008 ASM (American Society of Metals) Materials Science Research Silver Medal. Dr. Luo’s research is also recognized by several Best Paper awards from TMS, SAE and AFS (American Foundry Society).

Alan actively volunteers in many professional societies (including ASM, TMS, SAE and AFS) and the local communities. He has served as the Detroit Chinese Engineers Association president and the GM Chinese Employees Association president, as well as several TMS committee chairs. He received numerous service awards including the 2013 McFarland Award for outstanding service to SAE and the 2007 “Spark Plug” Award for demonstrating the importance of spirit and morale at GM R&D.

Bradley Hall has been a professional member of ASM-Detroit since 2009. Prior to becoming a professional member, he was a student member of ASM International and has been attending chapter meetings since 2004. Bradley has some previous experience on the ASM-Detroit Executive Committee as an appointee by Jason Coryell (Past Chairman) to lead the Scholarship Committee.

Currently, Mr. Hall is a Process Metallurgist at Gerda - Monroe Mill, an SBQ steel supplier located in Monroe, MI. He has been employed at this facility since completing his studies at Michigan State University, in the Summer of 2008. Upon graduation from MSU, Mr. Hall earned a Master of Science Degree in Materials Science and Engineering.

ASM-Detroit 2013-2014 Executive Committee Ballot

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<tr>
<th>CHAIRPERSON</th>
<th>□ Susan Hartfield-Wünsch</th>
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<tr>
<td>VICE CHAIRPERSON</td>
<td>□ Manish Mehta, Ph.D.</td>
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<tr>
<td>SECRETARY</td>
<td>□ Eric McCarty</td>
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<tr>
<td>TREASURER</td>
<td>□ Thomas Mackie</td>
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EXECUTIVE COMMITTEE (CHOOSE 2)

□ Michael Blaziejewski □ Alan Luo
□ Bradley Hall

Mail or fax ballots no later than May 31, 2013 to:
ASM-Detroit Office
P.O. Box 1398 • Warren, MI 48090-1398 • Fax (586) 693-0727
Submitted by Nominating Committee Chair, Jason Coryell
The History of Casting Steel (continued from page 1)

become highly successful and in 10 years has reached tens of thousands of students. Teachers also get excited about materials science and that enthusiasm overflows into their classrooms. This program is now handled by the ASM Foundation and includes 160 camps and has served 3,778 teachers.

The Detroit Chapter has also tried to actively involve students in materials science. Detroit has long held University Night at the University of Michigan to actively involve undergrad students and present scholarships. Over the years, as times have changed and participation waned, ASM-Detroit has evolved to meet the needs of students and this past March held its first Student Mixer in Ann Arbor. The event was a resounding success and plans are to hold another Student Mixer in October. ASM member participation is key to the success of this event, so make plans to join us in October.

It is with genuine gratitude, to the contributions made over his tenure, that we welcome Robert D. Pehlke Ph.D. as the Detroit Chapter’s 71st Woodside Lecture. Dr. Pehlke studied at the University of Michigan, and received a B.S.E. (Metallurgical Engineering) in 1955; the Massachusetts Institute of Technology (Metallurgy) in 1958, and Sc.D. (Metallurgy) in 1969 and at the Technical Institute in Aachen, Germany as a Fulbright Fellow in 1956-1957.

In 1960, Dr. Pehlke joined the faculty at the University of Michigan and was appointed Associate Professor in 1963 and full Professor in 1968. In 1973, he was named Chairman of the Department of Materials and Metallurgical Engineering. He served as Department Chair until 1984. In 1994, he was Visiting Professor at Tohoku University in Sendai, Japan.

Dr. Pehlke is a member of ASM and AIME and has served on numerous divisional and award committees and became an ASM Fellow in 1976. He is also a member of the American Society of Engineering Education and the American Foundry Society. Dr. Pehlke is also a PE and has served as Foundry Educational Foundation Professor at the University of Michigan for 17 years. His text “Unit Processes of Extraction in Metallurgy” has been widely used throughout the world.

In 2001, Dr. Pehlke was presented with ASM International’s Edward DeMille Campbell Memorial Lecture Award on “Computer Simulation of Solidification Processes – The Evolution of Technology.” In 2005, he received the Outstanding Alumnus Award of the Department of Materials Science & Engineering at the University of Michigan.

Dr. Pehlke’s research has covered a broad range of metallurgical topics with an emphasis on high-temperature physical chemistry of metallurgical systems, modeling of solidification of metals, and computer applications in metallurgy.

As the Detroit Chapter’s 71st Woodside Lecturer, Dr. Pehlke’s presentation will explore the history of continuous casting of steel. The original concepts for continuous casting of steel will be explored. The basic elements of the process will be described. Computer modeling of heat transfer and fluid flow will also be discussed. These analyses of continuous castings have led to many productivity and quality advances in the industry. Dr. Pehlke will also discuss the current status of castings as well as cover future projections in the field.

The meeting will be held at Vladimir’s located at 28125 Grand River Ave., Farmington Hills, MI. The evening begins at 5:30 p.m. with a social hour sponsored by Heatbath/Park Metallurgical (originally Park Chemical) whose founder, William Park Woodside, was one of the original 18 at that first meeting in Detroit in 1913. Special thanks to Heatbath/Park Metallurgical for standing with ASM-Detroit and ASM International for 100 years.

Dinner is served at 6:30 p.m., followed by the meeting at 7:00 p.m. For reservations, contact the chapter office at (586) 573-0700 or via email to asmdetroitchapter@gmail.com. Please note ASM-Detroit accepts cash or checks only. Make plans today to join us for our 100th Anniversary celebration.
ASM-Detroit Chapter & Detroit Windsor AFS Chapter Joint Golf Outing

THE 5TH ANNUAL GOLF OUTING
Saturday, August 17, 2013

This year’s event will be held Saturday, August 17, 2013 at the beautiful Fellows Creek Golf Course & Banquet Center in Canton, Michigan.

The event is ASM-Detroit Chapter’s & Detroit Windsor AFS Chapter’s yearly fundraising project and is only made possible by our generous sponsors and golfers. This is a unique opportunity for local business owners and chapter members to promote their goods and services. It’s also a great place to network with others and have a great time.

ASM/AFS Chapters have a rich history in supporting the following: provide scholarships to university students; promotes career fairs, science fairs and ASM’s annual teacher’s camp; visits middle schools to encourage science and math careers.

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MAIL TO: Caryn Ruzich
ASM DETROIT CHAPTER
P.O. BOX 1398
WARREN, MI 48090-1398

SCAN/EMAIL TO: asmdeetroitchapter@gmail.com

FAX TO: (586) 693-0727

MAKE CHECKS OUT TO: ASM - DETROIT
ASM-Detroit Chapter
Scholarship Winners

This year, the Detroit chapter is pleased to announce that we will be awarding three scholarships to students. The awards will be presented at our May technical meeting, Monday, May 13th at Vladimir’s.

The James A. Mansfield Award is presented to a student with high scholastic achievement and is a member either of the Detroit chapter or an affiliated student chapter. This year, the award is presented to Jennifer Andrews from Michigan State. Jennifer has an extensive background in researching materials used for fuel cell catalysts.

The Sustaining Members Meritorious Scholarship is presented annually to a student majoring in metallurgy or materials science, has a good scholastic record and demonstrates an interest in the field through their extra curricular activities. This year’s winner of the scholarship is Bo Bi, a student at the University of Michigan. His professors describe him as being very helpful to other students, an outstanding student and has research experience in the field of preparing graphene.

Our final award, the Marion Smericshen Freshman Scholarship, is awarded to either a high school senior or college freshman to encourage them to pursue the fields of materials science or metallurgy. Kelsey Gibson, of Divine Child High School, is this year’s recipient of the award. Kelsey has demonstrated her interest in materials science, has completed one internship at the Research Innovation Center at Ford Motor Company and will return this summer to complete a second internship.

Last Chance!

ASM-Detroit was planning on publishing a 2010-2012 Yearbook & Buyer’s Guide, however, since we are celebrating our 100th Anniversary as the founding chapter of ASM International this year, we will now be publishing a three-year edition to include 2013.

New this year, the Guide will also be available online and in full color (online only) for easy access. Please consider supporting ASM-Detroit by advertising in our 100th Anniversary Edition of the Yearbook & Buyer’s Guide.

If you have already submitted your advertising contract, thank you! If you would like to be included in the 100th Anniversary Edition, contact Caryn at the chapter office for a contract. Business cards ads are as low as $175 for ASM-Detroit Sustaining Member companies and all Sustaining Member receive discounted advertising rates. All advertisers are welcomed!

Golf Outing (continued)

The chapter will also be soliciting for hole sponsors, beverage sponsors and door prizes in the near future, so if you or your company would like to contribute to this event, please contact Caryn at the chapter office. Recognition for your contributions will be published in the October Micro Examiner as well as on sponsor signs at the outing.

While this has been a time of great change for many, ASM and AFS are still moving forward, continuing our mission of advancing and disseminating scientific, engineering, and technical knowledge through our respective organizations.

Play a part in our success and join us for a great outing. For reservations, contact Caryn at the chapter office at (586) 573-0700 or via email to asmetroitchapter@gmail.com.