November, 2014

This Issue:

2. Next Meeting: (Thursday) November 20, 2014
   “Orbital Welding for Critical Applications”
   Sunniva R. Collins, Ph.D., FASM
   Case Western Reserve University
   ASM International Trustee

3. Teachers Materials Camp—Get involved!

3. September 16th Meeting Photo

4. Directions to L’Affaire

Chair’s Message

This month we are honored by the annual ASM Trustee visit. Our visiting trustee is Dr. Sunniva Collins, Associate Professor at Case Western Reserve University, Cleveland, Ohio. She will be speaking about “Orbiting Welding for Critical Applications.” I am sure this will be a talk of high interest to our materials community.

For myself, I analyzed the surface chemistry of stainless orbital welds three decades ago and found the benefits of being stainless can be reduced by welding. We also saw many other issues that would make one worry about aggressive or corrosive environments. I hope the speaker touches on these subjects and tells us ways to perform orbital welding to insure proper surface properties.

Furthermore, the Trustee’s Visit presents the chapter with the opportunity for us to meet with an ASM International official and be able to discuss what we think is working with the organization, and what could be improved with regard to member services. Please feel free to bring up issues with Dr. Collins as we will be doing during our pre-meeting executive session.

Please note the date so that we will have a good turn out of our members for this meeting. We realize that it’s the week before Thanksgiving; but it will be our last membership meeting until February, 2015.

Fall has been proceeding well, and as I write this in October, I am looking forward to fall colors and nice weather. I hope this holds.

On behalf of your officers and executive committee, best wishes to all our members and their families for a happy and safe holiday season.

Dr. Robert Sherman, Applied Surface Technologies
Chairman, ASM Metro NY-NJ Chapter
roberts@co2clean.com

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Membership Hotline
800-336-5152
Mon - Fri. 8:30am - 5:00pm

Please report any changes to your address, phone number, e-mail, etc.

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http://www.asminternational.org

ASM Metro New York-New Jersey Chapter Web Site:
http://metronynj.asminternational.org

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787th Meeting  November 20, 2014  (Thursday)

Trustee's Visit

Program:          Place:          Cost:          
6:15 pm Networking    L’Affaire, Mountainside, NJ      Members & Guests: $30.00  
7:00 pm Dinner         Directions are on page 4  
8:00 pm Presentation   Students                         Free  

L’Affaire, Mountainside, NJ  Directions are on page 4

Cost:  
Members & Guests: $30.00  
Students                         Free  

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The Metro NY-NJ Chapter thanks these companies for their ongoing support.

“Orbital Welding for Critical Applications”

Speaker: Sunniva R. Collins, Ph.D., FASM
Associate Professor,
Mechanical and Aerospace Engineering
Case Western Reserve University, Cleveland, OH

Orbital welding is a precise, automated method for welding together process tubing systems in high-tech industries ranging from semiconductor equipment manufacturing to biopharmaceutical processing to aerospace. In these critical systems, a precise weld is required to avoid corrosion in service, either to maintain system integrity or to keep corrosion byproducts from affecting the system fluid. It is commonly used on austenitic steels and other alloys, such as nickel-based corrosion-resistant alloys, titanium or aluminum. This presentation discusses the welding requirements in some of these industries, and will cover the fundamentals of joint preparation and purging to ensure a quality weld that will perform in critical environments.

Sunniva Collins joined the faculty of the Case School of Engineering at Case Western Reserve University in March 2013, where she teaches Materials, Design, and Manufacturing courses in the Department of Mechanical and Aerospace Engineering. She is also contributing to the university’s initiatives in advanced manufacturing. Prior to CWRU, Collins was employed by Swagelok Company for 18 years. As senior research fellow at Swagelok Company, Collins was responsible for coordinating the company’s academic and governmental research partnerships. She joined Swagelok in 1995 as a research metallurgist and served in engineering management positions, including manager, materials technology; manager, standards and product regulatory compliance; and as technical director of

(Continued on page 4)
Teachers Materials Camp —
Get Involved in this very worthwhile program

The Materials Camp Teachers program strengthens the curriculum in Science, Technology, Engineering and Mathematics (STEM) at the secondary level. By introducing teachers to the engineering professions through Materials Science, we influence students for years to come. Materials Science excites students’ interest because the student has every day, hands-on experience with materials. Thus, materials topics are great motivators in any engineering, technology or science course. Materials are also a very important and an integral part of the manufacturing process.

This international program is offered by the ASM Materials Education Foundation, in fulfillment of its Mission: "To excite young people in materials, science, and engineering careers." Since 2002, ASM Materials Camps have introduced thousands of high school teachers to hands-on learning about the role of materials in our daily lives. These week-long professional development workshops are held on college campuses, high schools and community colleges throughout the United States and Canada during the summer.

During the one-week workshop, teacher participants learn the basics of Materials Science Technology as taught at the high school level. They work hands-on with metals, ceramics, polymers and composites, and develop a greater appreciation for the importance of these materials to modern life. The teachers see how this heavily project-based course excites students to learn science concepts as they complete projects of personal worth to them. Whether teachers use the information and concepts as a basis for teaching their courses or merely infuse the concepts into an existing science course to increase relevancy, they finish the week prepared to make some important instructional changes as a result of their participation.

Get involved — To learn how you can assist with, sponsor, contribute to, or otherwise participate in the upcoming 2015 Teachers Materials Camp, please email Dr. Roumiana Petrova, NJIT at: roumiana.s.petrova@njit.edu

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**Coming Events**

**ASM Metro NY-NJ Chapter**

Meetings are not held during the months of December or January

The ASM Metro NY-NJ Chapter wishes you a happy, healthy holiday season & new year

2/24/15 (Tuesday)       6:15pm
Meson Madrid, Palisades Park, NJ
“Robotics for Rehabilitation”
Dr. Joo Kim
New York University

3/24/15 (Tuesday)       6:15pm
Meson Madrid, Palisades Park, NJ
“Basic Concept of Laser Peening”
Jim Harrison
Curtiss Wright

4/21/15 (Tuesday)       6:15pm
Meson Madrid, Palisades Park, NJ
Family & Friends Night
“Steam Coffin—Steamships”
John Laurence Busch

Check the Chapter website for the latest updates and information: http://metronynj.asminternational.org

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Sunniva R. Collins (Cont. from page 2)

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Collins received her doctorate and master’s degree in materials science and engineering from Case Western Reserve University and her bachelor’s degree from the University of Michigan. From 2003 to 2006, she was Swagelok’s Principal Investigator on a DoE funded project to evaluate surface hardening of austenitic stainless steels by low temperature carburization. On this project, she was responsible for program management of collaborative research with Case Western Reserve University (CWRU), Oak Ridge National Laboratory (ORNL) and other industry partners. The results of this research have been recognized with the 2006 ASM Engineered Materials Achievement Award, and a 2008 R&D 100 Award. She was also PI for Swagelok on an Ohio Department of Development commercialization project from 2008 to 2012; and on a DARPA project led by the NRL from 2008 to 2010.

Collins has worked to develop key standards on welding, surface finish requirements, and corrosion test methods for the semiconductor equipment industry. She has also instructed courses for ASME on Bioprocessing Equipment (BPE) and for the International Society of Pharmaceutical Engineers (ISPE).

Collins is a Fellow of ASM International (FASM) and served on the ASM Board of Trustees from 2008 to 2011. She was the Cleveland Chapter Chair from 2000 to 2001, and received the Cleveland Chapter’s Award of Distinction in 2009 and the Distinguished Service Award in 2013. In 2011, she was named a fellow of Alpha Sigma Mu, the national honor society for materials scientists.

Collins has been a member of ASM since 1988, and credits her graduate school experience for getting actively involved in the Cleveland Chapter. She is also a member of IMS and HTS, and has focused on STEM educational initiatives throughout her career.

She has served as a Materials Mentor for the ASM Materials Camp for Students, and organized the Cleveland Materials Camp for Teachers, now entering its 7th year.

Directions to L’Affaire
1099 Rt. 22 East, Mountainside, NJ
908-232-4454   www.laffaire.com

Garden State Parkway, South, Exit 140A
Take Rt. 22 West 5 miles. You’ll see L’Affaire on your left. Go additional 1 mile to left lane U-turn. Drive east 1 mile to L’Affaire.

Garden State Parkway, North, Exit 140
Immediately get in left lane, follow signs for Pkwy S, 82W, 22W. Take Rt. 22 West 5 miles. You’ll see L’Affaire on your left. Go additional 1 mile to left lane U-turn. Drive east 1 mile to L’Affaire.

NJ Turnpike, North & South Exit 14
Take Rt. 22 West 10 miles. You’ll see L’Affaire on your left. Go additional 1 mile to left lane U-turn. Drive east 1 mile to L’Affaire.

Route 287, North or South Exit 14A

Route 78, East to Exit 45 (Glenside Ave.)
Turn left at light go 1.1 miles to stop sign, make a sharp right turn onto Baltisrol Rd. (becomes Summit Rd.) 2.5 miles to Rt. 22 West. Go 1 mile to left lane U-turn. Drive east 1 mile to L’Affaire.