



# The Macrogram

Hartford Chapter of the ASM International  
Build on our Strengths - Leverage our Diversity - Network to Succeed

## MONTHLY MEETING – TOPIC

October 1, 2003

SPE/ASM/RTC Joint Meeting

**Topic: Ceramic, Metal and Plastic Biomaterial Implants for Human Body Repair**

**Speakers: Dr. Mark Roller  
Dr. Mei Wei**

Directions: **Sheraton Springfield One Monarch Place**  
Take Route 91 North to Exit 4, East Columbus Avenue.  
Continue on Columbus Avenue to the 5th set of lights. Take a  
right onto Boland Way. The hotel entrance is on the right.  
*Parking included with dinner. Ph: (413) 781-1010*

**Agenda:**

Cocktails: 5:00-6:00 PM

Dinner: 6:00 7:00 PM

Program: 7:00- 9:00 PM

**Program Charges:**

Regular Members - \$28.00

Retirees - \$15.00

Full Time Students - \$15.00

**Technical Chairperson:** Stu Weis & Myer Erzlin

**Social Hour Sponsor:** TBA

**Reservations:** Call Laura or Patti at Dynamic Metals (860)  
583-3336 by noon September 26th. **Thanks!**

**Abstract:**

Modern medicine utilizes the same types of materials for body repair as common every day things like metal screws and plastic toys. In some cases, such as hip and knee repair, materials are used in combination, metal and plastic. Ceramics are also growing in importance, such as bone repair. We welcome the opportunity to meet with other materials-related organizations to learn together of how medicine uses the same materials for life saving implants as we work with in non-medical applications. It will be a pleasure for the Western New England Section of the Society of Plastics Engineers to meet again with the Regional Technology Corporation of Western Massachusetts and the American Society of Materials Hartford Chapter. Our two speakers will provide insight into how ceramic, metal and plastic biomaterial implants are used for human body repair.

## Speakers' Bios



**Dr. Mark Roller** received his Ph.D. in Polymeric Materials from Princeton. Some of the projects he has worked on at Johnson & Johnson have been polymer-based dental fillings and sutures. At the J&J Center for Biomaterials and Advanced Technologies, where he is Principal Scientist, he has several projects developing medical devices. He has been a seminar speaker at the UConn Institute of Materials Science on biomaterial implants and the regulatory approval process hurdles that medical devices face. Dr. Roller is a member of the Society of Plastics Engineers (SPE).



**Dr. Mei Wei** joined the Department of Metallurgy & Materials Engineering at UConn as Assistant Professor in January 2002. Her doctorate is in Biomaterials from the University of New South Wales, Australia. At UConn she does research on synthesis, characterization and cell culture of hydroxyapatite, a fundamental material of bone. She also prepares novel apatite/polymer composites mimicking the mechanical properties of bone making the implants more desirable for bone replacement. Dr. Wei is a member of the American Society of Materials (ASM).



## ASM Hartford Apprenticeship/Mentor Program

<http://www.asm-hartford.org/apprenticeship.htm>

**Make a difference to our profession!**

- Build Leaders for the Materials Industry
- Develop Leadership Skills
- Broaden Knowledge of Materials Issues
- Network with Experts in Materials Fields
- Build Relationships

**October 21, 2003**

## ASM Historical Landmark Citation Presentation Eli Whitney Armory

A citation designating the Eli Whitney Armory as an ASM Historical Landmark will be presented to the Eli Whitney Museum on October 21. The reads:

*"On this site between 1798 and 1825, Eli Whitney built the first significant independent American armory. The development of materials processing innovations began the tradition of precision production and interchangeable parts in America."*

The ASM Historical Landmark Designation was established in 1969, to identify permanently the many sites and events that have played a prominent part in the discovery, development and growth of materials.

### Agenda:

11 AM Press Conference and Citation Presentation  
Noon- 1:30 PM Lunch (charge) and Keynote Address

5:30-6:00 PM: Reception (no charge)

6:00-6:30 PM: Annual Meeting/Citation Acknowledged

6:30-7:00 PM: Speaker Dr. Sharon M. Oster,  
Yale University School of Management  
*Economics of Entrepreneurialism*



Please RSVP as space is limited to 100  
(total Museum patrons, guests and ASM members).

**RSVP to Sally Hill (203) 777-1833 by noon October 17th.**

## **The Eli Whitney Museum**

915 Whitney Avenue  
Hamden, CT 06517-4036

### **Directions from I-91 North or South:**

Take Exit 6, Willow Street. At the end of the ramp, take a right onto Willow. Go straight on Willow until the road ends. Turn right on Whitney for 9/10ths of a mile. The Museum (marked by a pair of low stone walls) is on the right side of the street at the foot of the waterfall. The Barn is directly across the street on your left.

**November 11, 2003**

## **Topic: A Combined HIP and Heat Treat Process for Aluminum Castings**

**Speaker:** Dr. Stephen J. Mashl  
Manager, Research and Development  
Bodycote HIP - North America, Andover, MA 01810

**Directions: Cugino's**, 1076 Main Street, Newington, CT 06111, Ph: (860) 665-0881  
Main Street is Route 176. **Cugino's** is south of Route 175 (Cedar Street). Use alleyway to parking area in rear.

### Agenda:

Cocktails: 5:30-6:30 PM  
Dinner: 6:30 7:30 PM  
Program: 7:30- 8:30 PM

### Program Charges:

Regular Members - \$28.00  
Retirees - \$15.00  
Full Time Students - \$15.00

**Technical Chairperson:** Al Hutwagner

**Social Hour Sponsor:** TBA

**Reservations:** Call Laura or Patti at Dynamic Metals (860) 583-3336 by noon November 7th. **Thanks!**

### Abstract:

The Hot Isostatic Pressing (HIP) process has been used since the 1950's to eliminate porosity in castings and thus, improve ductility, fatigue and impact strength in these components. Initially an expensive process used only for aerospace materials, improvements in equipment and processing technique have made the HIP process sufficiently cost effective to now be used on automotive aluminum castings. Recent development efforts at Bodycote have been aimed at combining Densal,



Bodycote's aluminum specific HIP process, with down stream heat-treating. Initial results are extremely encouraging, indicating that mechanical properties will equal or exceed the properties of identical parts put through

the current, conventional processing route. This presentation will provide a review of the obstacles to a combined process, present current results, and speculate on how a combined HIP and heat treat process might be effectively incorporated into a large scale aluminum casting operation.

### Speaker's Bio

Dr. Stephen Mashl joined Bodycote IMT, Inc. in 1998 as Manager of Research and Development. In this capacity, Steve leads the R&D group as they conduct studies to develop new and novel applications of isostatic densification processes and provide technical support to Bodycote's four, North American HIP facilities and their customers.

Steve obtained his BS MS and PhD degrees in Metallurgical Engineering from Michigan Technological University, though not concurrently. Following receipt of his bachelor's degree, Steve spent 5 years working in the steel industry as a metallurgical engineer, quality supervisor, and melting supervisor. Graduate studies and research positions at the US Dept. of Energy - Ames Laboratory and the Naval Research Laboratory, Washington, D.C. have concentrated on various aspects of powder metallurgy processing and solidification studies.

## CHAIRMAN'S LETTER

Through dedicated hard work focusing on our mission to *benefit our members in the metals and materials community by providing technical knowledge, education, networking and professional development*, our immediate past Chair, Stu Weiss lead the Hartford Chapter to Five Star recognition for the 2002-3 year. Thank you to all who contributed to the success of the Hartford Chapter.



John Rugh got our chapter off to a great start toward another Five Star year this year. John attended *Leadership Days* on August 15-17 in Cleveland and Metals Park. Although the blackout caused some inconveniences, John came away with many ideas to help improve Chapter operations and service to our members.

On July 27-29, faculty members of the Department of Metallurgy and Materials Engineering at the University of Connecticut introduced 19 engineering freshmen to *Materials Engineering in Society*. This one credit elective course, MMAT 100, was well received by the participations. The Hartford Chapter provided a stipend, from the proceeds generated from the 2002 Golf Outing, to partially offset the cost of this program, which included lodging and meals and was free to those attending.

Our best, certainly, was showcased at the **2003 ASM Hartford Hartford & AWS Connecticut Section Golf Outing** on September 10 at Blackledge Country Club. Over a hundred and fifty members and guests came for golf, dinner and raffle. Rebecca Gatzen, with assistance from Jason Doody of AWS, provided the leadership, enthusiasm and focus, which inspired the members of the golf outing committee to produce an outstanding event that was enjoyed by all.



The golf committee will soon have a summary of the 2003 event, with photographs, posted to our website. The initial tally indicates that this event

generated approximately \$3,000 for our student scholarship and materials awareness fund. Rebecca forecasts an even more enthusiastic turnout at the 2004 Golf Classic.

To help achieve our mission of *providing technical knowledge, education, networking and professional development* we are introducing the ASM Hartford Apprenticeship/Mentor Program. Individuals, companies and the Chapter will benefit from the broad knowledge of materials issues and contacts obtained through this program. We are presently building a list of tours and workshops that will be part of the program. More details are

found on our web site. Contact Jack Piela or me to add your company for at tour or workshop or to be part of this program.

Our meeting programs in 2003-2004 will be the product of the efforts of a coalition of Past Chapter Chairs. Stu Weiss has worked with the Society of Plastic Engineers to organize the October 1 meeting on *Ceramic, Metal and Plastic Biomaterial Implants for Human Body Repair*. Al Hutwagner arranged to have Dr. Marshl speak at our November 11 meeting on *A Combined HIP and Heat Treat Process for Aluminum Castings*.

On October 21, the Eli Whitney Armory, site of the Eli Whitney Museum in Hamden, will receive a citation and a plaque recognizing it as an **ASM Historical Landmark**. The Armory is one of three sites (including Lief Ericsson' sron smelter in Newfoundland and another site in Italy) so recognized in 2003 and the only one in the United States. Two previous sites in Connecticut have been designated Historical Landmarks by ASM: *Old New-Gate Prison and Copper Mine* in 1976 and *Waterbury Brass Company Mill* in 1977. Please join us on October 21.

A joint Hartford/Southern CT committee will start meeting soon to develop plans for *Materials Week*, April 12-16, 2004. Please contact me to be part of this team.

Based on the ASM vision "*To be the first stop resource for technical knowledge, education, networking and professional development for members and customers in the metals and materials community*," the Hartford Chapter's theme this year is **Build on our Strengths - Leverage our Diversity - Network to Succeed**. This is what we do best.

*Networking to help you succeed through ASM Hartford,*

Executive Committee

**ASM Southern Connecticut Chapter** has the following meetings planned for the fall. Both events take place at Rapp's Paradise Inn in Ansonia, CT. Meetings start with a social hour at 5:30 PM, dinner at 6:30 PM and the speaker at 7:30 PM.

### **Thursday, October 16, 2003**

Chris Vargas, Senior Engineer at UTC Fuel Cells, will present: The PEM Fuel Cell. Chris will give a description of the Proton Exchange Membrane or PEM fuel cell and discuss its use in stationary and transportation applications. Sir William Grove invented the fuel cell in 1839. Fuel Cells are electrochemical devices that react hydrogen and oxygen to create electricity and water. In the 1960s NASA started using fuel cells on all manned space flights and now the push is to commercialize PEM fuel cells for stationary and transportation applications.

### **Thursday, November 20, 2003**

Digital Photomicroscopy, by Christopher Rinaldi, Imaging Specialist of Excel Technologies, Inc. (a Sustaining Member of ASM Hartford) Christopher will demonstrate state of the art technology in Digital Photomicroscopy.

For further information, contact Bill Michels at 203-356-5729.

**Executive Committee**

Chairperson	Arnie Grot (860)	(860) 633-5849
Vice Chairperson		
Secretary	Rebecca Gatzen	(860) 667-4403
Treasurer	John Rugh	(860) 346-2433
Public Relations	Harley Graime	(860) 550-7246
Member at Large	Joe Kubinski	(860) 745-5977
Education	Steve Crosby	(860) 827-5014
University Affairs	Nitin Padture	(860) 486-4206
Student Affairs	Leon Shaw	(860) 486-2592
UConn Scholarships	Jack Woodilla	(203) 374-7650
Membership	Jack Piela	(860) 872-9359
Past Chairmen	John Pearson	(860) 626-2542
Outgoing Chair	Stu Weiss	(860) 285-4232

**Sustaining Member Companies**

**Consider becoming a sustaining member. For information, please contact Rebecca Gatzen, Secretary.**

Bodycote Hoovan Inc	Lutz Associates
Bodycote Lindberg Corp	M&S Incorporated
Consolidated Ceramic Products	Nerac
Conval Corp	Specialty Steel Treating Inc
Excel Technologies Inc	The J M Ney Company
Fenn Manufacturing Co	The Stanley P. Rockwell Co
Flame Treating & Engineering	The Timken Company
Grot Enterprises	United Service Company
Jacobs Vehicle Systems	Vitta Corp

*Due to cost of printing and mailing, ASM Hartford will publish just one issue of the **Macrogram** in the fall, one winter issue and one spring issue. Therefore, it is particular important that you bookmark the ASM Hartford web site (<http://www.asm-hartford.org/>) and check it regularly for updated information. We will continue to send out email notices to those on our distribution list prior to events.*

To receive an email notice of Hartford Chapter events, send an email to [web@asm-hartford.org](mailto:web@asm-hartford.org).

**Enjoy "For Members Only" Perks**

ASM International's web site ([www.asminternational.org](http://www.asminternational.org)) offers many online resources and networking features exclusively for members, including:

- FREE unlimited access to Desk Editions Online
- FREE articles from the Article Archives, online
- BONUS coverage from our magazines
- FREE searches of the ASM Job Bank
- FREE Salary Survey Report
- Member Discounts on Books, Journals, Training, Event Registration and more

**ASM HARTFORD CHAPTER**

Jack Piela, Membership  
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Vernon, CT 06066