Quad Chapter Newsletter

January 2012

Calendar of Events

See www.asmwest.com for updates

JANUARY 2012

Los Angeles Chapter General Meeting

Tuesday, January 17: Dr. Andrea M. Hodge, USC "The Search for Stable Nanomaterials", Maria's Italian Kitchen, 5:30 pm

Orange Coast Chapter Meeting

Wednesday, January 18: Satish Dixit, Plasma Technology Inc. "Surface Engineered Coating Solutions for Wear, Erosion and Thermal Barrier applications", Duck Club, 6 pm

FEBRUARY

Los Angeles Chapter General Meeting

Tuesday, February 21: Innovation, Skunk Works® Style, Dr. Alton Romig, Lockheed Martin Skunk Works®, Truxton's American Bistro, 5:30 pm

Orange Coast Chapter Meeting

Wednesday February 15th: David Jackson President, CleanLogix LLC "CO_2 Technology Transforms Manufacturing"

San Fernando Chapter General Meeting

Thursday, February 23: Dr. Robert Gansert, Advanced Materials & Technology, Santa Susana Room, University Student Union, CSUN, 7 pm

MARCH

Orange Coast Chapter Meeting

Wednesday March 21st: Neil Hall, Engineering Specialist, Callaway Golf "Golf Club Driver Design- A Materials Perspective", Duck Club, 6 pm

APRIL

Los Angeles Chapter General Meeting

Tuesday, April 17: Student Night

Orange Coast Chapter Meeting

Wednesday April 18th: Speaker TBA

JUNE

Summer Party, Monday, June 5, SAVE THE DATE contact Dick Berryman 626-812-1907 or Richard.berryman@ngc.com

Table of Contents

ASM-OC is looking for sponsors for January, February, March, April, and May monthly meetings. The sponsorship fee is $100 per meeting. The company logo will be advertised on the website and newsletter for sponsorship. A table will also be provided for display of company information at the monthly meeting.

2011-12 Executive Committee

Chair: Khinlay Maung
Vice Chair: Ethel Poire
Treasurer: Joe Breslin
Secretary: Joe Horwath
Industrial Relations: Scott Poveromo
Communications: Tim Montalbano

★★★★★ FIVE STAR CHAPTER
ASM INTERNATIONAL® The Materials Information Society
San Fernando Valley Chapter

ASM International San Fernando Valley Chapter Presents February 2012 Meeting

Thursday, February 23: Dr. Robert Gansert, Advanced Materials & Technology, Santa Susana Room, University Student Union, CSUN, 7 pm

San Fernando Valley Chapter Event Details

WHO:	Dr. Robert Gansert, Advanced Materials & Technology
WHERE:	**Balboa Room – University Student Union, CSU Santa Susana Room, University Student Union, CSUN** **(Parking: G4 or G3 Parking Lots – off Zelzah Ave., $6)** http://www.csun.edu/maps/cm1.html http://usu.csun.edu/about/hoursmaps.php
TIME:	6:00 pm – Executive Board Meeting 7:00 pm – Dinner 7:15 pm – Presentations
WHEN:	Thursday, November 17, 2011
COST:	**No charge; Refreshments (Sandwiches, drinks) will be provided**
More info:	Hans Shin, hshin@pacifictesting.com

San Fernando thanks its Sustaining Members

THERMAL TECHNOLOGIES	California State University Northridge Dept. of Manufacturing Systems Eng. and Management Materials Engineering Program
MTI Metals Technology, Inc.	Pratt Whitney Rocketdyne
PACIFIC TESTING LABORATORIES, INC.	DESTEC

Interested in being a speaker or serving as an Executive Committee Officer? Please contact us for more information.

ASM Los Angeles Chapter

EDUCATION COURSES

Education Opportunities coming up in January

The Los Angeles Chapter will offer two Continuing Education Courses starting January 5, 2012. The courses will be given on the campus of California State University-Dominguez Hills (CSUDH) in the city of Dominguez Hills. The campus is just south of the 91FWY on Victoria Street. Take the Central Avenue off ramp-south. The courses will be held in the Natural Science-Mathematics (NSM) Building, room 239 and 243.

The courses are:

Met 0135. Metallurgy for the Non-Metallurgist…..a popular introduction to the science and technology of the metal working industry. This course carries 3 Continuing Education Credits (3CEU). Tuition is $1575.

Met 0001. Introduction to Heat Treating….a popular introduction to the fundamentals of steel heat treatment and metallurgical processing. This course carries 2 Continuing Education Credits (2CEU). Tuition is $1575. The Los Angeles chapter has reduced the tuition in order to make the course available to more local members. Also, the tuition covers membership for one year in ASM International and a huge notebook full of vital information / data / charts and terminology useful on the job. (The tuition at Headquarters is $1989, not including the cost of transportation and lodging).

Both courses have been approved by The International Council for Continuing Education. Both courses are the same as those offered at ASM Headquarters. All the teaching materials are from Headquarters.

Here are the enrollment details:

Tuition can be paid by check or credit card. Make checks payable to Los Angeles Chapter, ASM International.

Contact Dr. John R. Ogren if you plan to attend either course.

drjogren@aol.com
424 228 2708 land line
310 918 3028 cell

Dr. Ogren must order supplies from ASM and needs a head count in advance of the start date.

One last item: Classes are from 6-8 PM. Coffee and soft drinks will be available free.

****

Is your information (mailing address, phone number, e-mail) current with ASM International?
You can contact ASM to update their records at ASM International at 800-336-5152 or cust-srv@asminternational.org, or you may e-mail Michael.t.hahn@ngc.com

****

The Los Angeles Chapter of ASM International thanks its sustaining members:

SEAL Laboratories – El Segundo

RTI Pierce Spafford Metals Co. – Garden Grove

VACCO – South El Monte

Engineering Systems, Inc. – Foothill Ranch

Solar Atmospheres of California

Electrolizing Incorporated

Allied High Tech

ASM International
Los Angeles Chapter

January 2012

Meeting

The Search for Stable Nanomaterials

Andrea M. Hodge, Timothy A. Furnish
Department of Aerospace & Mechanical Engineering, University of Southern California,
Los Angeles, CA 90089, ahodge@usc.edu

ABSTRACT

Highly nanotwinned (nt) metals have shown a strength comparable to nanocrystalline metals, while maintaining other desired properties including ductility, conductivity, and thermal stability. However, the deformation mechanisms and mechanical stability of the nt metals is not yet fully understood. Therefore in this presentation, results from highly aligned nt-Cu samples tested in compression, torsion, and tension under various loading/testing conditions relative to the twin boundary (TB) direction (represented in Fig. 1) will be presented. The microstructures of the tested samples were analyzed before and after deformation for each loading configuration in order to study the stability of the nanotwins.

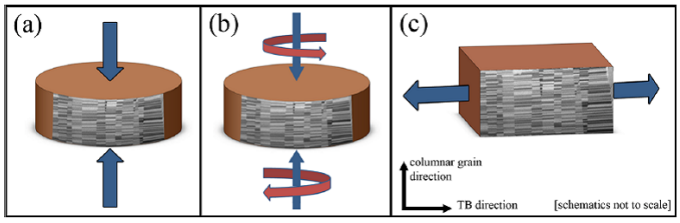


Figure 1: Schematic of the testing configurations used in this study. (a) compression; (b) high pressure torsion (HPT); and (c) tension. Note the direction of loading relative to the twin boundary (TB) and columnar grain directions.

In all testing configurations, the nt structure was observed to be mostly stable, in which, to a significant extent, the nanotwins survived without major changes in twin size, orientation, or twin density. However, distinct differences in the overall deformation of the samples and in the extent of the changes were observed.

Biography:

Dr. Andrea Hodge is an assistant professor in the Aerospace and Mechanical Engineering Department with a joint appointment at the Mork Family Department of Chemical Engineering and Materials Science at USC. Prior to her position in academia she worked at Lawrence Livermore National Laboratory as a Staff Scientist from 2004 to 2007 and as a postdoctoral fellow from 2002-2004. She received her Ph.D. in Materials Science from Northwestern University in December 2002. Professor Hodge leads the Materials Nanotechnology group at USC which includes a physical vapor deposition processing lab and a nanomechanics lab. Her research interests range from processing of nanocrystalline and nanoporous materials to nanomechanics of metals and biomaterials. She is an active member of The Metals and Materials Society (TMS), The Materials Research Society (MRS) and Society of Hispanic Professional Engineers (SHPE) and has organized multiple symposiums for all three societies; she was the Meeting Chair for the MRS Summer meeting 2011. She received the TMS Young Leader Award in 2004, an NSF BRIGE award in 2008 for her work titled “Processing of Metallic Thin Films via Magnetron Sputtering” and an NSF CAREER Award in 2010 for her work titled “Exploring nanoscale growth twins for the development of grain boundary engineering”. Professor Hodge has co-authored over 50 peer-reviewed publications and two book chapters. She has given over 40 invited, plenary and keynote talks throughout the world.

Meeting Details

WHAT:	**The Search for Stable Nanomaterials**
WHO:	**Dr. Andrea Hodge, USC**
WHERE:	**Maria’s Italian Kitchen** **615 Flower Street** **Los Angeles CA, 90017**
HOW:	Valet Parking: Available for $7 on S. Flower Street (across from Maria’s at the Pegasus or Lebanon Street [alley behind Maria’s]) Metro Stop: 7TH STREET METRO CENTER STATION
TIME:	**5:30pm – Social Hour** **6:30pm – Dinner** **7:30 pm – Presentation**
WHEN:	**Tuesday, January 17, 2012**
COST:	**$20, Students $5**
R.S.V.P.	**Andrew Kent** Andrew.Kent@ngc.com **(626) 812-1502**

Learn some exciting, simple, low-cost experiments to engage your students!

Attend a one-week training this Summer – FREE!

ASM MATERIALS CAMP® 2012

California State University-Long Beach
Long Beach, CA
June 25-29, 2012

Who: High school general science, chemistry, physics, math and technology teachers; middle school science teachers.

What: A one-week workshop to show you how to use low cost / no cost, simple labs and experiments using everyday materials that can be integrated into your existing lesson plans.

Why: To engage and excite young people in science and math!

Program Fees: None—program includes lunch and supplies; transportation and other costs are your expense.

Credit: 2 graduate credits available for an additional cost of about $200.

Schedule: This is a full day (8:00 to 5:00 PM) 5-day long workshop. (Note: Possibility of late afternoon/evening in the event of fieldtrips scheduled.)

Faculty: Primary faculty are two experienced high school "Master Teachers" who have taught materials science courses for many years and helped develop this innovative approach to hands-on learning of applied science principles.

How to apply:

- Click on link below. http://www.zoomerang.com/Survey/WEB22BQMD9DGLY/; or visit www.asmfoundation.org.

Questions?

For more information, please visit www.asmfoundation.org or contact: Jeane Deatherage, Administrator of Foundation Programs at (jeane.deatherage@asminternational.org).

Orange Coast Chapter
2011-2012

http://www.asmorangecoast.com

2012 Speaker Schedule:

Wednesday January 18th:
Satish Dixit, Ph.D.
Director Engr./R&D, Plasma Technology Inc.

"Surface Engineered Coating Solutions for Wear, Erosion and Thermal Barrier applications".

Wednesday February 15th:
David Jackson
President, CleanLogix LLC

"CO_2 Technology Transforms Manufacturing"

Wednesday March 21st:
Neil Hall
Engineering Specialist, Callaway Golf

"Golf Club Driver Design- A Materials Perspective"

Wednesday April 18th:
Speaker to be formally announced at a later date.

Summary of the 2011 Biomedical Symposium

On November 18th ASM Orangecoast and ASM West held a biomedical symposium focused on materials engineering challenges at UC Irvine. We had roughly 80 attendees including 11 speakers and 7 company sponsors. It was a packed day running from morning to night. The day included a poster session, microscopy tour and a diverse range of speakers from both the academic and industrial communities. Feedback has been very positive and we are already looking ahead to next year!

Pictured: Scott Poveromo of ASM and keynote speaker Dr. Wu of Edwards Lifesciences.

Announcing the Winter Schedule

January/ February/March/ April Meetings, 3rd Wednesday!

Schedule:

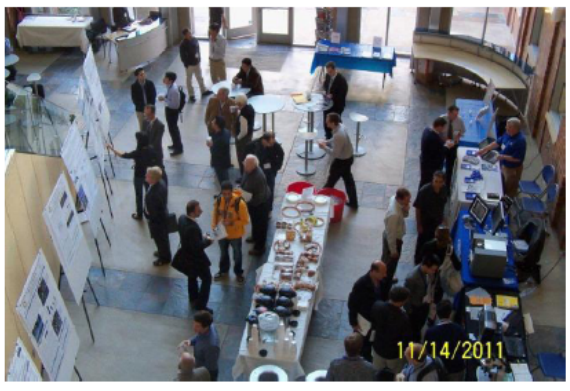
6:00	*Dinner and Social Hour*
6:40	*Introductory Welcome*
6:45	*Chair Presentation*
6:50	*Guest Speaker:*

Where:

Irvine Duck Club
5 Riparian View
Irvine, California

Cost: *ASM members free*
Non-members please contact

Questions:
Contact as asmorangecoast@gmail.com



"Surface Engineered Coating Solutions for Wear, erosion and thermal barrier applications"
Satish Dixit, Plasma Technology Inc., Torrance

Abstract:
Advanced ceramic and metallic coatings for wear and corrosion protection of engineered structures applied by thermal spraying techniques have become a mainstay of surface engineering. Estimated global sales of thermally sprayed coatings are in the US$5 billion range per year. PTI is a leader in this technology and has been providing thermal spray coating services to aerospace, automotive and other allied industries for the past 42 years. This presentation will include a brief introduction to the thermal spray coating process technology and discussion of various technological applications developed by PTI. A short video showing brief introduction to overall thermal spray process technology will be presented at the onset of the presentation.

Dr. Satish Dixit
Ph.D., Physics and Materials Science, University of Pune, Pune, India (1995)

Bio
Dr. Satish Dixit is the Director of Engineering/R&D at PTI. His responsibilities include leading a team of scientist and engineers in new development programs as well as assisting the production team in process development. Along with this he is also involved in new material and coating process development programs for various government funded programs from DoD, DoE, NASA, NSF etc. Before joining PTI, he has been a Senior Research Scientist at UES, Inc., Dayton, OH and was actively involved in their coatings development programs and related SBIR work. At UES, he successfully completed various phase I and phase II DoE and DoD sponsored SBIR programs and successfully commercialized thin film coating process for die casting industries. Prior to that he was Senior Research Officer at Multi-Arc India Limited, and was responsible for managing their hard coating production facility, as well as development of new and novel coatings, process technologies, and plasma nitriding for applications such as cutting tools, forming tools, decorative coatings, and corrosion-resistant coatings. He has more than 20 years of hands-on experience in working with vacuum equipment and advanced thin film deposition techniques, including physical vapor deposition (PVD), pulsed laser deposition (PLD), sputtering, thermal evaporation, ion-beam assisted deposition (IBAD), and ion implantation.

We would like to thanks all the participants and sponsors of the ASM West biomedical symposium!

Advertising Rates

Take advantage of this opportunity to reach *over 1000* materials professionals in the LA area.

Business Card (1/10 page)	$20
1/8 page	$25
1/4 page	$50
1/2 page	$87.50
Full page	$150
Back 1/2 page	$87.50

* 10% discount for full year purchase, 8 issues September-May (no December newsletter). Paper newsletter is sent in spring and fall with monthly electronic updates.
To advertise in this newsletter, contact us at michael.t.hahn@ngc.com

---

Chapter Realignment

The South Bay Chapter is being merged with the Los Angeles Chapter. The Chapter boundaries are being realigned for Los Angeles, Orange Coast, and San Fernando. Those affected by the realignment should have received something from ASM headquarters. If you have not already responded to the notice from ASM, please do so. No member's chapter affiliation will be changed without consent. As before, any member may choose to affiliate with any chapter.

Your metallographic preparation and testing success comes down to three critical factors…

Powerful Equipment, Intelligent Support, Outstanding Service

For more than 125 years, Struers has been your source for equipment, support and service that pushes the excellence edge to the extreme. Whether you're seeking fully or semi-automated equipment that cuts, grinds, polishes, tests or prepares, Struers can deliver.

Contact Struers Executive Account Representative
Nancy Kacius at 1.888.STRUERS, ext. 862.

Solutions for your business can be found at www.struers-solutions.com

Tel: 866-787-8169 Fax: 440-871-8188 Email: info@struers-solutions.com

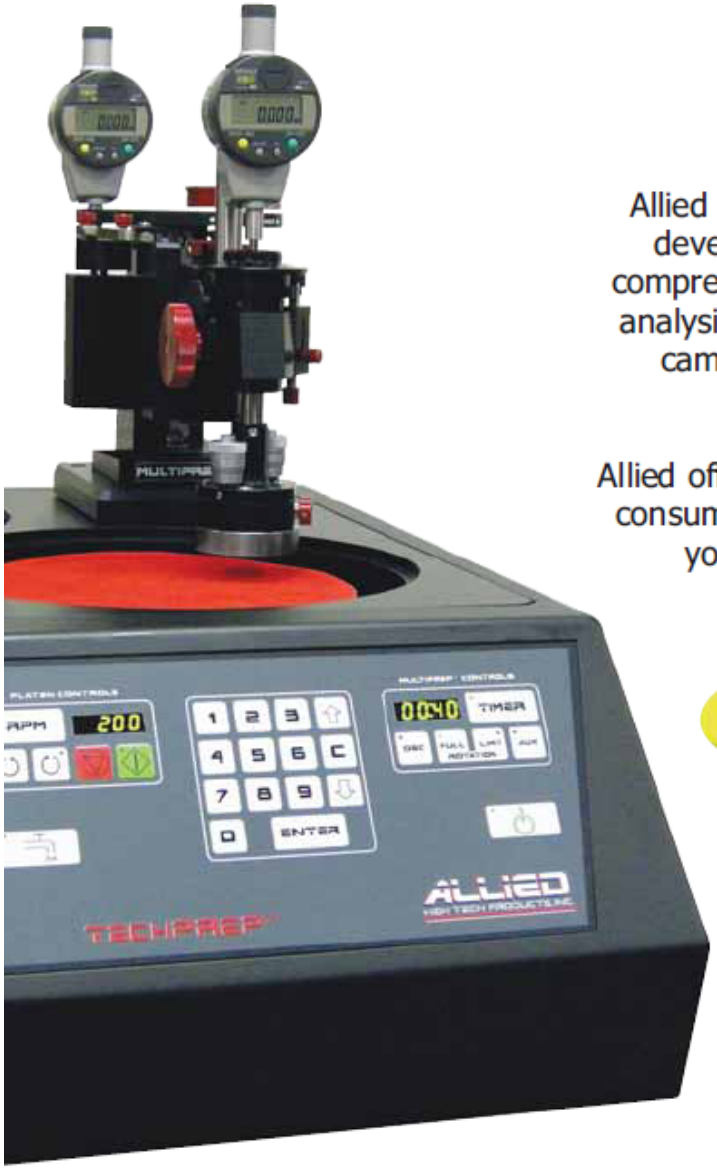
ALLIED
HIGH TECH PRODUCTS, INC.

Technical Expertise

at Your Service!

Allied Materials Engineers are available to assist you in developing procedures for your samples, preparing comprehensive application reports, and making imaging/analysis recommendations using the latest microscopes, cameras & software from Carl Zeiss Microimaging. It's complimentary... *always!*

Allied offers a complete line of superior quality equipment, consumables, and Carl Zeiss image analysis products for your metallographic sample preparation needs.



Allied's MultiPrep™ System enables precise (1 µm) semiautomatic sample preparation of a wide range of materials for microscopic evaluation

Request Allied's Latest Product Catalog Today!

Craig Bryan **is Allied's Product Application Specialist for the Southern California Area and is available for on-site demonstrations.**

Please contact Craig at:
Office/Cell: (949) 300-0119
E-mail: ccbryan@alliedhightech.com

Allied Equipment and Fixtures are Designed and Manufactured by Allied in the United States

2376 East Pacifica Place, Rancho Dominguez, California 90220 USA
(800) 675-1118 (US/Canada) • (310) 635-2466 (worldwide) • www.alliedhightech.com

Los Angeles/South Bay Chapter Chair
Michael O'Brien
michael.j.obrien@aero.org

Orange Coast Chapter Chair
Khinlay Maung
kmaung@uci.edu
asmorangecoast@gmail.com

San Fernando Valley Chapter Chair
Hans Shin
hshin@pacifictesting.com

We're on the Web!
www.asmwest.com

ASM Quad Chapter Newsletter
4929 Macafee Rd
Torrance, CA 90505

Place Stamp Here

January 2012