

Calendar of Events

See www.asmwest.com for updates

OCTOBER

LA/ Orange Coast Joint Chapter General Meeting

Tuesday, October 11: Chris Berndt, ASM President-Elect, 5:30 pm, Truxton's American Bistro, 8611 Truxton Avenue, Los Angeles, CA 90045 (Westchester area, between La Tijera and Manchester)

San Fernando Chapter General Meeting

October 27, 2011: Saverio D'Agostino, Jet Propulsion Laboratory, "Failure of a Stainless Steel Brazed Heat Exchanger as a result of Sigma Phase Formation", Marie Callender's - Garden Room, 6:00pm (executive board meeting), 7:00pm (social/dinner), 8:00pm (presentation)

NOVEMBER

Orange Coast Chapter Special Event

November 14, 2011: Symposium on Biomaterials, Medical Devices and Tools: Challenges with Design, Fabrication and Testing, UC Irvine

LA/South Bay Joint Chapter General Meeting

Plant Tour, Lisi Hi-Shear, Torrance (Details TBD)

San Fernando Chapter General Meeting

November 17, 2011: CSUN – University Student Union (Balboa Room), 18111 Nordhoff St., Northridge, CA 91330, 6:30pm – Executive Board Meeting, 7:00pm – Social/Dinner, 7:15 – Presentations (Aileen Shin, Chris Crawford).

JUNE 2012

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



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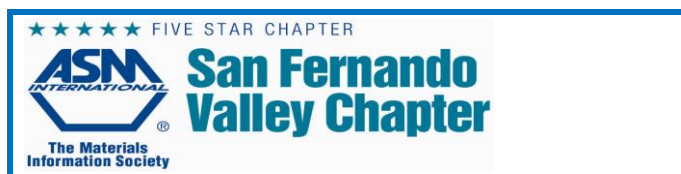


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**ASM International San
Fernando Valley Chapter
Presents**

October 2011 Meeting

**Failure of a Stainless Steel Brazed
Heat Exchanger as a result of
Sigma Phase Formation**

**Saverio D'Agostino, Jet Propulsion
Laboratory**

San Fernando Valley Chapter Event Details

WHO:	Saverio D'Agostino, Jet Propulsion Laboratory
WHAT:	Failure of a Stainless Steel Brazed Heat Exchanger as a result of Sigma Phase Formation
WHERE:	Marie Callender's (Garden Room) 19310 Business Center Dr. Northridge, CA 91324
TIME:	6:00 pm – Executive Board Meeting 7:00 pm – Social/Dinner 8:00 pm – Presentation
WHEN:	Thursday, October 27, 2011
COST:	\$15 (Students \$7)
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.	<u>Pratt Whitney</u> <u>Rocketdyne</u>
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Interested in being a speaker or serving as an Executive Committee Officer? Please contact us for more information.

ASM Los Angeles Chapter

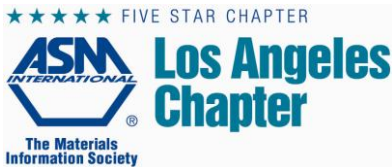
EDUCATION COURSES

The Los Angeles Chapter is planning to offer education courses beginning in January. Courses given in the past include Metallurgy for the Non-Metallurgist, Aluminum Technology, Titanium and its Alloys, and Heat Treatment. For more information and to enroll in the course, contact: Dr. John R. Ogren drjogren@aol.com or 424-835-4137 or 310-918-3028

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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:

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Orange Coast Chapter 2011-2012

<http://www.asmorangeoast.com>

October 11th - Joint meeting w/ LA Chapter @ Truxton's American Bistro. **Speaker: Dr. Chris Berndt, President of ASM International. Topic: Concepts of Manufacturing Nanomaterials via Thermal Spray Processing**

November 14th – One day symposium @ UCI on Biomaterials, Medical Devices and Tools: Challenges with Design, Fabrication and Testing.

Tentative Keynote Speaker from Edwards Lifesciences Inc.

Confirmed Speakers:

Dr. Shrivastava from EV3 Inc., Irvine, CA
“Engineering Solutions to Treat Cerebro-Vascular Aneurysms and Ischemic Stroke”
Dr. Selvaduray from SJSU, San Jose, CA
“Surfaces and the Bulk – Are they Identical?”
Dr. Stiglich from Ultramet, Pacoima, CA
“Medical Materials, Devices by Chemical Vapor Deposition”
Dr. Xie from Advanced Bionics, LLC., Valencia, CA
“Laser Hermetic Welding of Implantable Medical Devices”
Dr. Liu from UCR, Riverside, CA
“Challenges in Orthopedic Biomaterials”

Student Poster Competition:

2 poster contestants will receive \$500 each to go to any 2012 ASM conference.

For more information on the symposium and poster competition, please see our new website: www.asmorangeoast.com

Schedule of October Meeting:

5:30 Social Hour

6:30 Dinner

7:30 Program

Where: Truxton's American Bistro, 8611 Truxton Avenue, Los Angeles, CA 90045 (Westchester area, between La Tijera and Manchester)

Cost: \$20 Dinner, Students \$5

R.S.V.P. to
andrew.kent@ngc.com

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.

Incoming Executive Committee

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



**ASM International
Los Angeles Chapter**

October 2011

Meeting

Concepts of Manufacturing Nanomaterials via Thermal Spray Processing

Abstract

Thermal spray processes by their very nature have an intrinsic ability to form microstructures on a very fine scale. Whereas this has been known since high resolution microscopy has been used to investigate thermal spray structures; the methods whereby sub-micrometer scale microstructures can be achieved with consistency is not as clear.

Scanning electron microscopy (SEM) and X-ray diffraction (XRD) were employed to analyze the feedstocks and coatings which evolved from the nanostructured powder. These results demonstrated that a feedstock with a broad particle size distribution maintained some of its nanostructure during spraying; whereas a feedstock with a narrow particle size distribution lost a major proportion of its nanostructure character.

The Young's modulus of nanostructured YSZ was measured using indentation techniques. The anisotropy of the deposits was estimated by indenting the deposits in directions perpendicular and parallel to the substrate. The mechanical properties of the coatings exhibit a bimodal statistical distribution. This behavior can be attributed to the bimodal microstructure of the coatings that consists of molten and non-molten areas. Each set of measurements was statistically evaluated using the Weibull probability distribution model. Statistical distribution of the mechanical properties was correlated with the microstructure. The effect of nano-scale features on the effective Young's modulus is predicted and again compared to experimental observations.

The concept of producing nanostructured materials via thermal spray processes, although intuitive, is neither routine nor reliable. There are many technical challenges necessary to transition the science to an engineering reality. Some strategies to overcome these barriers will be presented from the viewpoint of integrating more fully the materials science into the materials engineering so that manufacturing processes can be consistent and of statistical relevancy.

Meeting Details

WHAT:	Concepts of Manufacturing Nanomaterials via Thermal Spray Processing
WHO:	Dr. Chris Berndt, 2011-2012 President, ASM International
WHERE:	Truxton's American Bistro, 8611 Truxton Avenue, Los Angeles, CA 90045 (Westchester area, between La Tijera and Manchester)
TIME:	5:30 PM: Social 6:30 PM: Dinner 7:00 PM: Program
WHEN:	Tuesday, October 11, 2011
COST:	\$20 for dinner (Students \$5)
R.S.V.P.	Andrew Kent Andrew.Kent@ngc.com (626) 812-1502

Bio. Dr. Christopher C. Berndt is Professor of Surface Science and Interface Engineering, Swinburne University of Technology in Australia. Chris Berndt hails from Adelaide in South Australia. In 1977, he earned a Bachelor of Applied Science in Secondary Metallurgy, Hons from what is now called the University of South Australia, followed by a Ph.D. at Monash University in the area of "The Adhesion of Flame and Plasma Sprayed Coatings". Berndt took on several Post Doctoral Fellowships in the USA, including one at NASA-Lewis before returning to an academic appointment at Monash University. He taught at Stony Brook University. From 1994 to 2005 before returning to Australia as the founding Professor of Surface and Interface Engineering, James Cook University, Queensland, Australia. He moved to Swinburne University of Technology (Melbourne, Victoria) in early 2008 as the founding Professor of Surface Science and Interface Engineering.

Berndt has been a member of the Thermal Spray Society of the ASM of which he has been a member since 1991. He was appointed as the Vice President of this society in 2000 and President in 2002. He was inducted into the Thermal Spray Hall of Fame in 2007. He was a member of the ASM Action in Education Team from 2000-2004. He was appointed a Trustee (the Board of Directors) of ASM International for the 2005-2008 period. He is 2011-2012 President of ASM International.



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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.

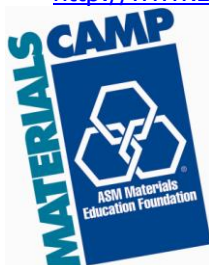
Credit: 2 graduate credits available for an additional cost of about \$200.

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).





**ASM WEST / MATSCI UCI
Symposium on Biomaterials, Medical Devices and Tools:
Challenges with Design, Fabrication and Testing**

November 14th, 2011

UC Irvine
4100 Calit2 Building
Irvine, CA. 92697-2800
Phone: 949.824.6900 (for directions only)

INTRODUCTION BY:

Gregory Washington, Ph.D.
Dean, The Henry Samueli School of Engineering
UC Irvine

KEYNOTE ADDRESS:

From "Solution Looking for Problem" to "Strategic Biomaterial" The Nitinol Story
Ming H. Wu, Ph.D.
Vice President Engineering Advanced Materials Technology
Edwards LifeSciences LLC

Registration (Includes Technical Program, Breakfast, Lunch and Coffee Breaks):

- o ASM members: \$40 (register by October 31st) - \$80 at the door
- o Non-members: \$60 (register by October 31st) - \$120 at the door
- o Full-time Students: \$10 (must show valid ID)

To register please see our website at www.asmorange coast.com or email us at asmorange coast@gmail.com

SPONSORS:



Preliminary Program

7:30 – 8:30			Registration and Continental Breakfast		
8:30 – 8:45	Gregory Washington, Ph.D. Dean, The Henry Samueli School of Engineering, UCI	Introduction			
8:45 – 9:25	Keynote: Ming H. Wu, Ph.D. Vice President Engineering Advanced Materials Technology Edwards LifeSciences LLC	From "Solution Looking for Problem" to "Strategic Biomaterial" The Nitinol Story			
9:25 – 9:55	Robert Gansert, Ph.D. President AMTS Inc.	Improved Properties of Light Alloys (Ti-, Ti-alloys, Mg-, Mg-alloys) Using Near-Nano and Nano-Based Materials for Medical Based Applications			
9:55 – 10:25	Jack Stiglich, Ph.D. Consultant Ultramet	Medical Materials, Devices by Chemical Vapor Deposition			
10:25 – 11:00			Morning Break- Tour of LEXI Microscopy Center and Table Top Exhibits		
11:00 - 11:30	Sanjal Shrivastava, Ph.D. Director of R & D Neurovascular Division of EV3, Inc	Engineering Solutions to Treat Cerebro-Vascular Aneurysms and Ischemic Stroke			
11:30 – 12:00	Hulnan Liu, Ph.D. Department of Bioengineering University of California, Riverside	Challenges in Orthopedic Biomaterials			
12:00 – 1:30			Luncheon at University Club All-You-Can-Eat Buffet featuring two Daily Specialty Soups, a variety of Cold Entrees, a Salad Bar, and Chef's three Daily Entrees		
1:30 - 2:00	Sepehr Farabi, Ph.D. Director of Research and Development IDEV Technologies, Inc.	Key Design and Materials & Processing Challenges During Development Cycle of Nitinol Endovascular Implantable Devices			
2:00 – 2:30	Guna Selvaduray, Ph.D. Department of Chemical and Materials Engineering San Jose State University	Surfaces and the Bulk – Are They Identical?			
2:30 – 3:00	Wendy Liu, Ph.D. Department of Biomedical Engineering University of California, Irvine	Probing the cell-biomaterial interface to improve the host response to medical implants			
3:00 – 3:30			Afternoon Break- Table Top Exhibits		
3:30 – 4:00	James Earthman, Ph.D. Department of Chemical Engineering and Materials Science University of California, Irvine	Development of Percussion Diagnostics in Evaluating Natural and Synthetic Materials			
4:00 - 4:30	Jian Xie, Ph.D. Senior Manager Advanced Bionics	Laser Hermetic Welding of Implantable Medical Devices			
4:30 – 5:00	Masaru Rao, Ph.D. Department of Mechanical Engineering University of California, Riverside	High-Aspect Ratio Titanium Micromachining: Enabling Technology for In Vivo Therapeutic Microdevice Applications			
6:00 – 6:15			Closing Remarks		
6:30			Networking at Steelhead Brewery		



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Chapter Realignment

Advertising Rates

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* 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

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.



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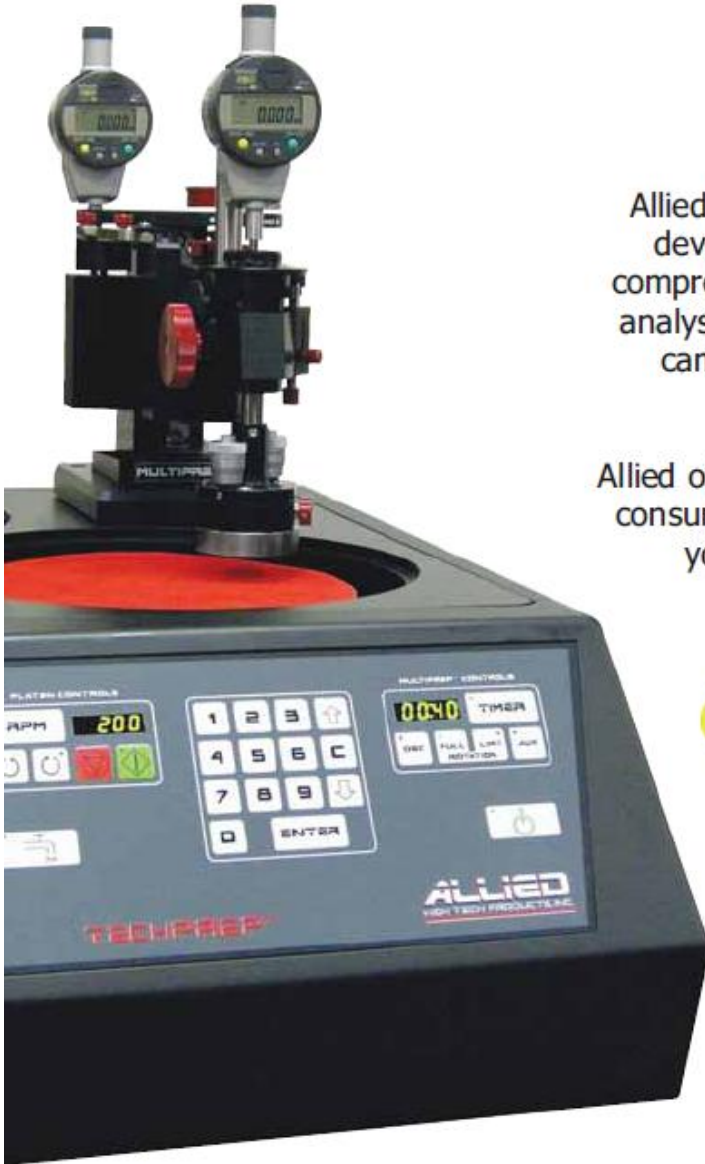
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ASM Quad Chapter Newsletter
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October 2011

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