



Quad Chapter Newsletter



May 2011

Calendar of Events

See www.asmwest.com for updates

MAY

LA/South Bay/Orange Coast Joint Chapter General Meeting

Tuesday, May 17: Tim Weeks, NIST, Boulder, CO, NIST Reference Standard Development for NDE Calibration & Failure Artifact Repository, 7] f] j Y ` ` c Đ g `) . ' \$ ` d a

May 23-25 AeroMat 2011, Long Beach Convention Center, Long Beach, CA

<http://www.asminternational.org/content/Events/aeromat/>

San Fernando Chapter General Meeting

Thursday, May 26: A U f] Y ` 7 U ` ` Y b X Y f Đ Room), Northridge, CA, 7:00pm (dinner, elections), 8:00pm (Bob Hayes, Metals Technology, Inc., Oxygen Embrittlement and Time-Dependent Cracking in Ni-Base Superalloys)

JUNE

Summer Party, Monday, June 6, San Dimas. To make reservations as a player or team, or to participate as a sponsor or supporter, please contact Dick Berryman @ 626-812-1907 (work), 714-963-6798 (home) or 714-614-7143 (cell), 8152 Lindenwood Drive, Huntington Beach, CA 92646

LA/South Bay Joint Chapter General Meeting

Tuesday, June 17: Í 7 A 7 ` 5 f a c f ` A U h Y f J. Stiglich, PhD, Ultramet, Proud Bird, 5:30 pm

Please look for more information on www.asmwest.com

★★★★★ FIVE STAR CHAPTER



The Materials Information Society

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

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[VACCO È South El Monte](#)

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**ASM International
San Fernando Valley Chapter
Presents**

May 2011 Technical Meeting

**OXYGEN EMBRITTLEMENT AND
TIME-DEPENDENT GRAIN-
BOUNDARY CRACKING IN Ni-
BASE SUPERALLOYS**

Robert W. Hayes
Metals Technology Inc.
19801 Nordhoff Street
Northridge, CA 91324

Abstract: Embrittlement of grain boundaries by oxygen or other deleterious species can take place in a wide variety of Nickel . base superalloys when exposed to an aggressive environment. This leads to a complete change in failure mode from a ductile transgranular fracture to a macroscopically brittle intergranular fracture with very low ductility. It has also recently been shown that moisture level in the test atmosphere may play a significant role in the grain boundary embrittlement process. The degree of susceptibility to time . dependent intergranular cracking is highly dependent upon microstructure as well as composition. Microstructures which are susceptible to grain boundary embrittlement will be presented and discussed. Methods to enhance the materials resistance to brittle grain boundary fracture will also be discussed. Fracture characteristics have been studied using SEM. Microstructures are characterized using optical metallography and TEM.

San Fernando Valley Chapter Event Details

WHO:	Bob Hayes, Metals Technology, Inc.
WHAT:	OXYGEN EMBRITTLEMENT AND TIME DEPENDENT GRAINBOUNDARY CRACKING IN Ni-BASE SUPERALLOYS
WHERE:	U # 19310 Business Center Dr. Northridge, CA 91324
TIME:	7:00 pm Dinner/Elections 8:00pm --Presentation
WHEN:	ThursdayMay26, 2011
COST:	\$15 (\$7 for Students)
More info:	Hans Shin hshin@pacifictesting.com

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

San Fernando thanks its Sustaining Members	

ASM Los Angeles Chapter

**METALLURGY FOR THE NON-METALLURGIST
ASM Course 0135**

<p>ADVANCED MATERIALS & TECHNOLOGY SERVICES, INC.</p>	<p>Robert V. Gansert, Ph.D. <i>President</i></p> <p>337 Longbranch Rd. Simi Valley, CA. 93065 Tel (805) 581-6045 Fax (805) 520-0481 Cell (805) 433-5251 e-mail: rgansert@adv-mts.com web: www.adv-mts.com</p>
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The chapter will be offering this Continuing Education Course starting Wednesday evening, September 7, 2011 at the Energy Resource Center of the Southern California Gas Company, 9240 Firestone Boulevard, Downey.

The course carries 3 CEU Official Credits. The educational materials have prepared by ASM and approved by the International Council on Continuing Education.

The course instructors will be two outstanding experienced metallurgical engineers from local industry:

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Tuition is \$1575.

Tuition covers 15 lessons, a large notebook full of useful information and membership for one year in ASM.

As an alternative, the contents of the big notebook can be obtained on a compact disc.

Details of the class schedule are up to the students. Usually, they choose to have two lessons per session; this means the class meets 8 times and is completed before the big holidays.

The course includes 15 take-home tests and a Final Exam. The Final Exam is taken on-line. Many instructions are given to take the test this way.

Interested persons should discuss this course with their supervisors.

For more information and to enroll in the course, contact:

Dr. John R. Ogren drjogren@aol.com
424 228 2708

AeroMat 2011 Conference and Exposition

New Era in Flight: Design and Manufacturing of Advanced Materials for the Future



**May 23-25, 2011
Long Beach Convention Center
Long Beach, California USA**

<http://www.asminternational.org/content/Events/aeromat/>

The Leading Materials Conference and Exposition for Aerospace Materials Engineers, Structural Engineers and Designers.

ASM International



Los Angeles, South Bay, and Orange Coast Chapters

May 2011

Joint Meeting

NIST Reference Standard Development for NDE Calibration & Failure Artifact Repository

Abstract Collapsing bridges and bursting pipelines are at the far end of the spectrum in terms of catastrophic incidents but unfortunately they do occur costing the industry and consumers many millions of dollars beyond the priceless loss of human life. The National Institute of Standards and Technology works closely with government regulatory agencies and industry leaders on behalf of the American public to provide standard test methods, standard references and critical data to improve safety and reliability. There are technology and measurement science gaps where calibrations are key to better predictive models for the very complex and diverse infrastructure challenges that we face. NIST is researching and has begun development of standard references for fatigue cracked infrastructure components like bridge girder sections and pipeline girth welds. The most common technologies used by the industry to detect and size these types of flaws include x-ray, ultrasound and electromagnetics. Unfortunately, current reference standards are developed to accommodate the measurement science and not the necessarily the application. Several other reference standards are also being researched and include corrosion and mechanical damage references. It is important that each of the references is industry and application relevant in order to successfully support Reliability Based Integrity Management. NIST has a vision of a National Center dedicated to Reliability Based Integrity Management that accommodates measurement science interests and regulatory interests by providing calibration reference standards and an artifact repository. The artifact repository will be a library of in-service material and component flaws and will be managed as a user facility to improve the industry safety performance.

Bio Dash Weeks is a Materials Research Engineer at the National Institute of Standards and Technology (NIST). Dash is the Project Leader for the Pipeline and Infrastructure Safety Project at NIST where he

conducts research on reference standards for non-destructive evaluation (NDE). The Pipeline and Infrastructure Safety Project at NIST also includes projects such as curved wide plate testing and microbiologically induced corrosion (MIC) effects on the fatigue crack growth rates of tank and linepipe steels. Just prior to NIST Dash worked as the Senior Test Engineer and Testing Program Manager at Composite Technology Development where he led cryogenic test programs on composite materials. Dash has a B.S. in Metallurgy from the University of California, San Diego and a Ph.D. in Materials Engineering from the University of California, San Diego. He was a member of the ASM International Program. Dash has a wealth of experience that was gained from past positions held at Los Alamos National Laboratory. His last position held at Los Alamos was that of Group Leader for the Testing and Advanced Diagnostics group in the Weapons Technology Division. Working closely with weapon design engineers, Dash designed test programs to validate component and system performance models. His education in Metallurgy and Materials engineering has been applied well to the large variety of materials and components that Dash has encountered in 15 years of testing.

Meeting Details

WHAT:	NIST Reference Standard Development for NDE Calibration & Failure Artifact Repository
WHO:	Hughes Technology
WHERE:	7700 Jolly Road 4115 N Viking Way Long Beach, CA 90808-1403 (562) 420-2113
TIME:	5:30 PM: Social 6:30 PM: Dinner 7:00 PM: Program
WHEN:	Tuesday, May 17, 2011
COST:	\$5 for pizza and beverages (Students free)
R.S.V.P.	Siari Sosa ssosa@semprautilities.com (562) 806-4847 or 213-220-5695



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California State University - Long Beach
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 June 27 - July 1, 2011

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 materials to 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.

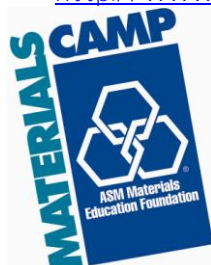
Schedule : This is a full day (8:00 to 5:00 PM) day long workshop. (Note: Possibility of late afternoon/evening in the event of fieldtrips scheduled.)

Faculty: Dr. Jeffrey A. Williams, who has taught chemistry 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/WEB22BQMD9DGIof/visitwww.asmfoundation.org>



Questions?

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



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Welcome to the Year 2011 ASM Summer Party Golf Tournament (and Putting Contest)
Monday, June 6, 2011, 8:00 AM Shotgun Start
San Dimas Golf Course

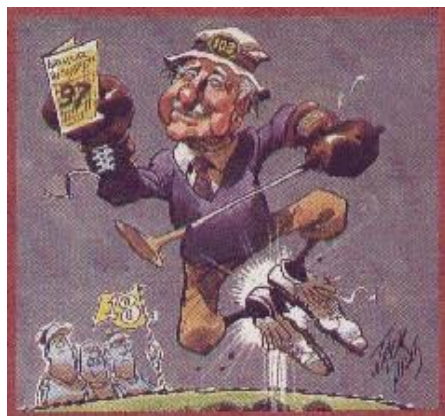
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Welcome to the ASM Golf Tournament. You are being provided with an innovative form of advertising to support your business throughout the year. Your sponsorship provides funds that the Los Angeles Chapter of ASM uses to promote Educational Courses, Student Scholarships and Quad Chapter Activities.

You may promote your business on our website and (receives hits from all over the world) and maintain your presence throughout the tournament by having a strategically placed Tee Sponsor Sign. Your advertising will remain on our website until one month before next year's tournament.

• Tee sponsors will be provided an opportunity to promote their company through a contest of their choice: Hole-In-Q pens, golf balls, etc. may be handed out at the tee... A sign will be positioned at the hole displaying the Sponsor's company name and advertising.

• Tee Sponsorship rate is: \$100.00

• Website Sponsors will have a page residing on our site to include their company logo, a selected photo that represents their company and supporting marketing text (If you already have a website, then a link to your website will be provided). The Website Sponsorship will include the additional Tee Sponsor benefits. A further perk will be Four Complimentary rounds of play in the Putting Contest. Website Sponsorship rate is: \$250.00

• Tournament Sponsorship rate is: \$2000.00

*For further information please
contact:*

Dick Berryman 626-812-1907
Richard.Berryman@ngc.com

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BUEHLER PRESENTS

A Spring Lecture Series: Fastener Metallography

Holiday Inn, Long Beach Airport Redondo Room - Top Floor

Free of Charge

Tuesday May 24th, 2011

9:00 – 11:30 AM

Structures and Heat Treatment of Fasteners

Fasteners are produced from a wide variety of materials and most materials can be used with different heat treatments or conditions. Structures of alloy steels, stainless steels (martensitic, austenitic, precipitation hardening), super alloys, titanium and aluminum will be demonstrated. Included are various heat treatments and their influence on the mechanical properties. Attendees will learn the proper terminology to describe microstructures such as equiaxed, slip lines, over heated, and many more.

1:00 – 3:30 PM

Fastener Imperfections

Many imperfections can be encountered during the final inspection of fasteners. Some result from poor quality raw material and others from improper manufacturing techniques. Examples of discrepancies caused by heat treatment, heading, grinding, thread rolling and plating are included in the talk. Learn how to identify alloy depletion, decarburization, shear planes, eutectic melting, overheated Ti6-4 and many more.



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Our Featured Speaker:

Frauke Hogue Hogue Metallography

Frauke Hogue was born in Germany. She received her education in metallurgy and testing of materials at the Lette Verein in Berlin, Germany.

In 1967 she moved to the Los Angeles area in order to learn technical English. She worked for Vol-Shan, a manufacturer of aerospace fasteners, in the Quality Control laboratory for 10 years. At Vol-Shan she wrote training manuals, trained new technicians, and interfaced with customers and suppliers.

In 1981 Frauke became an independent consultant in metallurgy, working mainly in the greater Los Angeles area, providing metallographic services to failure analysis companies.

Since 1985 she has been teaching intensive courses at ASM International and at companies throughout the United States. The first course was "Metallographic Techniques". Realizing that there was a gap in the offered courses, Frauke developed "Practical Interpretation of Microstructures" which consists of a collection of about 300 mounts and a notebook of annotated images of various materials and conditions. Another popular course is "Metallography of Fasteners" discussing structures and conditions encountered in the fastener industry.

Other projects Frauke is involved in are: Mentor for Materials Camp since its inception in 2000, K-12 website, certification for metallographers, writing a new course: Metallography for Failure Analysis.

As a member of IMS for over twenty years, she has presented several papers at conferences including Metallography of Fasteners, Metallography of Meteorites, and Metallography in Failure Analysis. In 2000 she was elected to the board of directors. Currently she is serving as president (2009 – 2011).

Frauke's other technical affiliation is with IMECA - Independent Metallurgical Engineering Consultants of California. She has been an active member, planning meetings and presenting papers, and is serving as president.

She lives with her husband Harlan in Pacific Palisades and Yucca Valley, California and they enjoy travelling, hiking and opera together.

Los Angeles/South Bay Chapter
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Eric Fodran
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Orange Coast Chapter Chair
Khinlay Maung
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ASM Quad Chapter Newsletter
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May 2011

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