



Quad Chapter Newsletter



March 2011

Calendar of Events

See www.asmwest.com for updates

MARCH

LA/South Bay Joint Chapter General Meeting

Tuesday, March 15: "Requirements of California's Global Warming Solutions Act (AB 32)", Noel P. Muyco, Southern California Gas Company & San Diego Gas and Electric, Cirivello's, 5:30 pm

Orange Coast Chapter General Meeting

Wednesday, March 16: "Nanoindentation and Nano Scratch Testing for Improving and Monitoring your Products and Processes", Ethel Poiré, EP Laboratories Inc. and "Crack Tip Grain Growth Behavior in Nanocrystalline Nickel under Cyclic Loading Conditions", James Earthman, Professor, UC Irvine

LA/South Bay Joint Chapter General Meeting

Tuesday, March 22: Tour of the Getty Center Labs, The Getty Center, 3:00 pm

San Fernando Chapter General Meeting

Thursday, March 24: Moh El-Naggar, "Microbial Hair - It's Electric", Dept. of Physics & Astronomy, USC (Marie Callender's - The Garden Room, Northridge, CA, 7:00pm

APRIL

LA/South Bay Joint Chapter General Meeting

Tuesday, April 19: Student Night, S Café, Northrop Grumman, Redondo Beach, CA

Orange Coast Chapter General Meeting

Wednesday, April 27: Martha McCartney, UC Irvine, "Superplastic Forming of Ceramics"

San Fernando Chapter General Meeting

Thursday, April 28: Dr. Shahram Sheybany (Pacific Metallurgical Co.), Frauke Hogue (Hogue Metallography) "Failure Analysis Mini-Symposium", CSUN 7:00pm

MAY

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

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

Calendar of Events (continued)

JUNE

Summer Party, Monday, June 6, San Dimas

Spring Symposium, Orange Coast Chapter, Saturday, June 11, UCI

Please look for more information on www.asmwest.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](#)

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**ASM International
San Fernando Valley Chapter
Presents**

March 2011 Meeting

Technical Meeting

Microbial Hair – It's Electric

**Dr. Moh El-Naggar, Dept. of Physics &
Astronomy, USC**

About the Speaker

Dr. El-Naggar received a B.S. degree from Lehigh University (2001), followed by M.S. (2002) and Ph.D. (2006) degrees in mechanical engineering (with applied physics minor) from the California Institute of Technology. In 2006, he started postdoctoral work in geobiology at the University of Southern California, before becoming an assistant professor of physics (2009) at USC, working at the interface between nanoscience and biological physics. He has been an Applied Materials, Inc. Graduate Fellow (2004-2006) and a guest researcher at the LBL Molecular Foundry (since 2008). He is also the recipient of an Air Force Office of Scientific Research (AFOSR) Young Investigator Award (2010).

Education

Ph.D. Engineering and Applied Science, California Institute of Technology, 2006

Postdoctoral Training

Postdoctoral Researcher, University of Southern California, 2006-2008

Description of Research

Summary Statement of Research Interests

Mohamed El-Naggar's research interests lie at the intersection of physics, biology, and nanotechnology. His work targets one of the most exciting frontiers in biophysics: the interface between biotic and abiotic systems. Microbes can be regarded as powerful, and efficient, biochemical factories that catalyze a wide

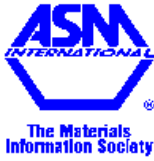
assortment of reactions to meet their energy demands. Understanding and taking advantage of these microbial activities at the biotic-abiotic interface offers potentially transformative approaches to bioenergy production (for example, using microbial fuel cells), and biosynthesis of nanomaterials. Current experimental work focuses on:

1. Electron transport in biomolecular nanostructures.
2. Bioenergy production in Microbial Fuel Cells.
3. Biological routes to nanomaterial synthesis.
4. The enzymatic activity of extracellular nanostructures. Implications for bioenergy and bioremediation.
5. New imaging technologies and algorithms.

San Fernando Valley Chapter Event Details	
WHO:	Dr. Moh El-Naggar, Dept. of Physics & Astronomy, USC
WHAT:	Microbial Hair – It's Electric
WHERE:	Marie Callender's (Garden Room) 19310 Business Center Dr. Northridge, CA 91324
TIME:	7:00 pm – Dinner/Refreshments 8:00 pm -- Presentation
WHEN:	Thursday, March 24, 2011
COST:	\$15 (\$7 for Students)
More info:	Hans Shin, hshin@pacifictesting.com

Interested in being a speaker? Please contact us for more information.

San Fernando thanks its Sustaining Members	



**ASM International
Los Angeles and South Bay
Chapters**

March 2011

Joint Meeting

Requirements of California's Global Warming Solutions Act (AB 32)

**Speaker: Noel P. Muyco
Environmental Affairs Program Manager
Southern California Gas Company & San
Diego Gas and Electric**

Abstract: The debate is over; the adoption of California's Global Warming Solutions Act (AB 32) is here. AB 32 affects major industries in the state such as power producers, utilities, refineries, manufacturers, cement producers, and the transportation sector to name a few. Ultimately, it will also affect industrial and commercial companies' future operations. This presentation will focus on programmatic requirements and challenges of AB 32 and help you and your company respond to this landmark piece of environmental legislation. This presentation is designed to benefit Industrial and Commercial sector in an open and informal setting to engage in a discussion about California's Climate Change Legislation and its requirements.

1. AB 32 requirements and timelines
2. Scoping Plan
3. ARB emissions inventory efforts
4. Cap and Trade

Biography: Noel Muyco graduated from Cal Poly Pomona and did graduate work at UC Irvine. He is the Environmental Affairs Program Manager for Southern California Gas Company and San Diego Gas and Electric. His

responsibilities include addressing air quality issues of the combined utilities with primary focus on the utility customers. Mr. Muyco has a BS in Industrial Engineering with post graduate studies in Environmental Management. He is certified in Environmental Management with emphasis in Air Quality and Hazardous Materials. He also holds a Certified Permitting Professional (CPP) license with the South Coast Air Quality Management District. Mr. Muyco has over 17 years of air quality experience managing and strategically addressing air quality compliance at the local, state, and federal levels for Southern California Gas. Among specific areas of expertise, Mr. Muyco manages the company's RECLAIM compliance program, prepares and manages the company's federal operating permits (Title V), and addresses and responds to environmental issues of the utility customer.

***HEAT TREATERS AND FORMER MHTA
MEMBERS WON'T WANT TO MISS THIS!***

Meeting Details

WHAT:	Requirements of California's Global Warming Solutions Act (AB 32)
WHO:	Noel P. Muyco Environmental Affairs Program Manager Southern California Gas Company & San Diego Gas and Electric
WHERE:	Cirivello's Sports Stop 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, March 15, 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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South Bay
Chapter

The Materials
Information Society

The South Bay Chapter of ASM
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March 2011 Joint Meeting

BONUS MEETING!!

Laboratory Tour of the Getty Center

Meeting Details

Join us for a tour behind the scenes at the
Getty Center to see the materials science and
other techniques used to authenticate,
preserve, and restore great works of art. See
parts of the Getty Center not generally open
to the public.

<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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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](mailto:cust-srv@asminternational.org), or you may e-mail
Michael.t.hahn@ngc.com

WHAT:	Tour of the Getty Center Labs
WHERE:	The Getty Center 1200 Getty Center Drive Los Angeles, California 90049
TIME:	2:30 PM: Assemble for Tour 3:00 PM: Tour 5:00 PM: Social Hour (location near the Getty will be announced)
WHEN:	Tuesday, March 22, 2011
COST:	No charge for the tour Parking is \$15/car (Carpooling recommended)
R.S.V.P.	Advance reservations are REQUIRED, as the tour is limited to thirty (30) individuals RSVP to Siari Sosa ssosa@semprautilities.com (562) 806-4847 or 213-220-5695

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Orange Coast Chapter March 2011

<http://www.asmwest.com/occhapt/occhap.html>
asmorangecoast@gmail.com

March 2011 meeting will continue with a double header, we will be joined by two very knowledgeable speakers for the evening.

When: Wednesday, 16th March

Schedule:

6:00 *Dinner and Social Hour*

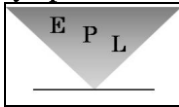
6:30 *Welcome Remarks*

6:35 Nanoindentation and Nano Scratch Testing for Improving and Monitoring your Products and Processes

Ethel Poiré,
EP Laboratories, Inc.

7:05 **Coffee Break**

Coffee, tea, juice, fruits and cookies
This Coffee is generously sponsored by



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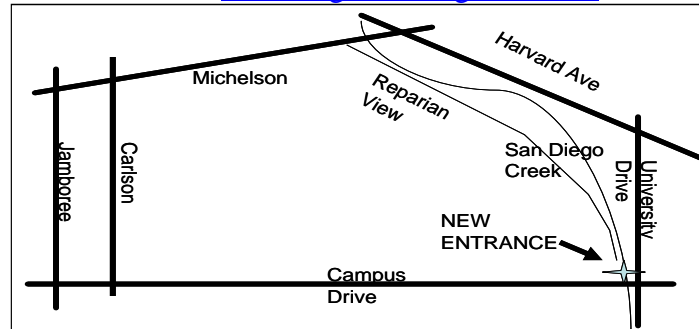
7:15 Crack Tip Grain Growth Behavior in Nanocrystalline Nickel under Cyclic Loading Conditions

James Earthman, Professor
Department of Chemical Engineering and Materials Science, UC Irvine.

Where: *Irvine Duck Club*
5 Riparian View
Irvine, California

Cost: *ASM members- free!*
Non-members-please contact
(Dinner is served free of charge)

Please RSVP to asmorangecoast@gmail.com.



Announcements:

- **April Meeting:** Wednesday, 27th April 2011
Martha McCartney, Professor
Department of Chemical Engineering and Materials Science, UC Irvine.
Topic: Superplastic Forming of Ceramics
- Please bring your business card to enter a raffle for a ceramic coffee mug with ASM-OC logo on it.

Highlights from February 2011 Meeting



The February meeting was successful with a great turnout from both industry and university.

Crack Tip Grain Growth Behavior in Nanocrystalline Nickel under Cyclic Loading Conditions

**James Earthman, Assistant Professor
University of California, Irvine
Department of Chemical engineering and
materials science**

Abstract: Grain structures in tested nanocrystalline (NC) Ni fatigue samples were investigated using transmission electron microscopy (TEM) and quantitative image analysis. The results indicate mechanically driven grain growth occurred near the primary fatigue crack tip that is dependent on stress intensity factor range. Intergranular crack growth was found to be more prevalent when values of stress intensity factor range were relatively low and less grain growth was observed. The present work also shows that this grain growth zone size closely corresponds to the predicted size of the crack tip plastic zone. Based on these findings, a crack growth mechanism is discussed that accounts for the observed localized increase in the average grain size.

Bio: James Earthman has been a faculty member at the University of California, Irvine since July 1988. He received his B.S. degree (1980) in Materials Science from Rice University and his M.S. (1982) and Ph.D. (1986) degrees in Materials Science and Engineering from Stanford University. Following his graduate work at Stanford, he spent two years as a Research Associate at the Swiss Federal Institute of Technology, Lausanne. From March 2007 through February 2009, he served in a 50% appointment as the Associate Vice Chancellor for Research at UC Irvine. Earthman's research activities include studies of a broad range of deformation and damage mechanisms in both model and advanced materials. His work also involves the development of a number of computer-based techniques for determining the damping characteristics of biomaterials and mechanical biocompatibility, monitoring corrosion and biofouling, and the nondestructive characterization of surface defects in situ. He has authored and co-authored over 100 research publications including 90 peer-reviewed articles and two chapters on tissue engineering. He is an inventor on six issued US patents, two international patents, and three pending US patents. He is also co-founder of Perimetrics, a diagnostic device company located in Newport Beach, CA. He has served as editor for two books in the fields of Materials Science and Biomedical Engineering.

Nanoindentation and Nano Scratch Testing for Improving and Monitoring your Products and Processes

**Ethel Poiré,
EP Laboratories Inc.**

Abstract: This talk will present an overview of two advanced surface mechanical testing techniques: the instrumented indentation testing (nanoindentation) and the single point scratch testing (nano scratch testing). Both techniques can be used for studying bulk or thick materials, they are however powerful tools in the cases of thin layers and small features, elastic materials and surfaces with poor optical contrast. Most samples can be tested "as is" or with minimal preparation.

Bio: Ethel Poiré is co-founder of EP Laboratories Inc, a lab service provider for nano and micro mechanical testing that serves the U.S. and international markets. Her work experience includes 7 years with Micro Photonics Inc. where she built, structured, managed and operated their West Coast laboratory. She also worked for nearly 5 years with the Canadian Space Agency as a Material Test Scientist on the effects of space environment on materials and coatings. She has a bachelor degree in Physics from Université de Montréal and a Masters degree in Engineering Physics from Ecole Polytechnique de Montréal; 20 years of experience in material testing.

Executive Committee 2010 – 2011

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ASM-OC is looking for volunteers to serve as a member or officer in Executive Committee. Please contact us if you are interested.



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

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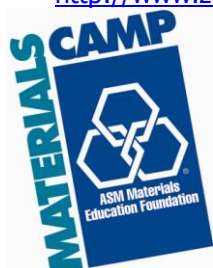
Credit: 2 graduate credits available for an additional cost of about \$200.

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.

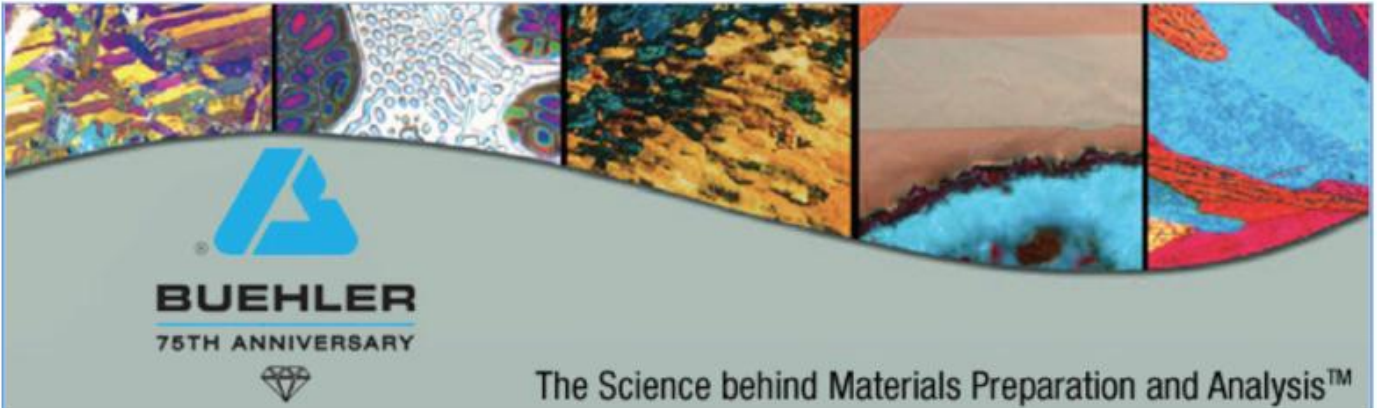


Questions?

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



Contact Buehler for Details: 949-458-8885



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METALLURGY FOR THE NON METALLURGIST COURSE

The **Metallurgy for the Non Metallurgist** course will be offered on four Saturdays beginning April 16 in Room 101 of the newly renovated Pereira Hall at the Loyola Marymount University campus. The course will consist of four 4-hour (9:30 am - 2:00 pm) sessions.

Contact Dr. John Ogren at 424-228-2708 (new phone number) or drjogren@aol.com

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ASM Quad Chapter Newsletter
4929 Macafee Rd
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March 2011

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