

Wednesday, September 12

Materials Issues for Electricity Generation in the Near Future - What are the Options?

Dr. John Stringer, FASM
EPRI, Palo Alto, California

5:30 pm Social/Networking.....6:15 pm Dinner.....7:30 pm Speaker

Meeting Location:
WYNDHAM GARDEN HOTEL
1300 Chesapeake Terrace
Sunnyvale
(408)747-0999

Dinner Cost: ASM Members \$18, Students \$8, Guests \$20
Meal Choices: Chicken Marsala, Chef Salmon, or Vegetarian

RESERVATIONS REQUIRED:
Janine Kardokus at (408) 986-7568 or Janine_Kardokus@amat.com
\$2 late fee after noon on Monday, Sep 10

September Meeting Sponsor:



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Meeting Directions

From points south: north on Lawrence Expressway, pass over 237, make the first left (Moffett Park Drive/Baylands Park), then the first left onto Chesapeake Terrace. **From points east or west:** Caribbean Drive (Lawrence Expressway North) exit off 237, first left at Moffet Park Drive/Baylands Park, then left on Chesapeake Terrace. **In either case, once you are on Chesapeake, simply proceed to the end where you'll find The Wyndham Garden Hotel.**

RETURN SERVICE REQUESTED

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About the Topic

Materials Issues for Electricity Generation in the Near Future - What are the Options?

We have all endured the hype on California's energy crisis, and perhaps even experienced a rolling blackout or two ourselves, but what is really happening with California's (and the world's) energy infrastructure? It's something we seldom think about, but as materials professionals we should, because this is a very materials-intensive issue. The recent problems in California have been attributed, at least in part, to our failure to build electrical generation capacity over the last few years. This means that now we must add to our energy infrastructure, and at the same time address the efficiency and reliability of our existing energy generating "fleet". Both endeavors are fraught with materials issues. And of course, California's problems are only the tip of the iceberg - we can expect to see more energy shortages throughout the world over the next quarter of a century as electricity becomes an ever-larger portion of the world's energy demand.

As we all know, the debates around the energy situation involve a variety of well-meaning desires, such as renewable "green" power sources, reduced global warming, and the NIMBY syndrome, which are pitted against the very real economic need for cheap, reliable power. In this presentation, we will look at the options for the near term, and see how they can satisfy the conflicting real and perceived needs. In a number of cases, they present significant materials challenges, ranging from demands for materials with improved high-temperature performance to superconductors and wide band-gap semiconductors for power control and conditioning.

About the Speaker

Dr. John Stringer—EPRI, Palo Alto, CA

John Stringer has been a member of staff at EPRI (formerly the Electric Power research Institute) since 1977, and acted as a consultant for projects sponsored by EPRI in the UK since 1974. For most of this period he directed the Materials Support Program. Since 1984 has also been closely involved in the more basic research activities across the Institute as a whole through what began as the Exploratory Research program, and is now the Strategic Science and Technology program. For all of his time at EPRI, he has also been a Consulting Professor in the Department of Materials Science and Engineering at Stanford University. John's degrees are all from the University of Liverpool (U.K.): B.Eng., Ph.D., and D.Eng. Prior to joining EPRI he was Professor of Materials Science at the University of Liverpool. He is a Fellow of ASM International, of TMS, of NACE International, of AAAS, of the Institute of Energy (U.K.), of the Royal Society of Arts (U.K.), and an Honorary Fellow of the Institute of Corrosion (U.K.). He is a member of AIME and of MRS. He has authored or co-authored some 325 papers in the scientific and technical literature, and has written or edited several books.

September Meeting Sponsor

ASMI-SCV would like to thank **Byington Steel Treating** for sponsoring our September meeting. Byington Steel Treating provides a broad range of heat treating services to local industry, and has been a faithful ASMI-SCV Chapter supporter for many years. We appreciate Byington's support, which enables us to provide quality technical programming to our membership at a reasonable cost.

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MEI Class Kickoff Meeting

ASMI-SCV is going to start offering classes! If you'd like to help kick-off the initiative, come share your input on Tuesday night, October 9, at 6:00 pm at the Round Table Pizza at 157 E. El Camino Real in Mountain View. We are looking for volunteer instructors and ideas on companies to target as sponsors for full or short versions of MEI courses. RSVP to Janine Kardokus at (408)986-0568 or e-mail to Janine_Kardokus@amat.com.

What are MEI courses? MEI is the Materials Engineering Institute of ASM International, which offers a variety of classes in many subjects, such as heat treating, materials selection, metallography & characterization, metallurgy & processes, testing & failure analysis, and welding.

Although ASMI offers these classes at the Materials Park facility in Ohio, *they can also be offered through the local chapters*, usually with volunteer instructors & class coordinators. Locally-given classes offer many benefits over the national classes, such as custom tailoring of the classes to local industry needs, lower class costs, and dissemination of materials information to people who would not ordinarily have access to the national courses.

The MEI class experience is a fun & rewarding experience for the chapter members involved. You have a chance to meet a lot of new people, share your materials knowledge, and contribute to the chapter and to the community. Sign up today!

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September is Past Chair's Night

One of our traditions in the Santa Clara Valley Chapter is to designate the September meeting as our Past Chair's Night. This means that we will take a moment at the meeting to recognize our past chairs for their service to the chapter. More importantly, it means that if you're a past chair, you'll get a free dinner! Here is the complete list of our 44 past chairs:

Ralph Parkman	1957-1958	Roger Perkins	1972-1973	Rosemarie Koch	1987-1988
Perry Slocum	1958-1959	Edward Kaminski	1973-1974	Surya Pattanaik	1988-1989
Howard Sumsion	1959-1960	John Leatherman	1974-1975	Gary Holmquist	1989-1990
Malcom Davis	1960-1961	Jerry Dassell	1975-1976	John Mardinly	1990-1991
Oleg Sherby	1961-1962	Frank Crossman	1976-1977	Cal Augason	1991-1992
Al Spencer	1962-1963	Elliott Willner	1977-1978	Jim Lewis	1992-1993
Edward Wright	1963-1964	Linda Clements	1978-1979	Gary Wozadlo	1993-1994
Robert Johnson	1964-1965	Elliott Rennhack	1979-1980	Al Kwong	1994-1995
Marvin Buehler	1965-1966	Patrick Pizzo	1980-1981	Leonard Migliore	1995-1996
Robert Hansen	1966-1967	Harry Wachob	1981-1982	Bob Wallace	1996-1997
Donald Crooks	1967-1968	Robert Elliott	1982-1983	Jamie Sandoz	1997-1998
Raymond Fenn	1968-1969	Robert Caligiuri	1983-1984	Paul Flowers	1998-1999
Alfred Goldberg	1969-1970	Dave Himmelblau	1984-1985	Scott Dickerson	1999-2000
William Donnelly	1970-1971	Charles Schmidt	1985-1986	Lou Wirtz	2000-2001
Sheldon Roberts	1971-1972	Brian Boggs	1986-1987		

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Upcoming Events

Sep 12: IEEE-CPMT, "Plating Processes for IC and Microelectronic Interconnect Applications". Visit: www.cpmt.org/scv/meetings/cpmt0109.html

Sep 12: NorCal SAE, "The SR71 Blackbird Reconnaissance Jet", Lt. Colonel B.C. Thomas (ret). Visit: www.norcalsae.org/Norcal_News/NorCal_News_Sept.htm

Sep 19: AIChE, "Tour of Chevron Richmond Oil Refinery in Richmond". Visit www.aiche-norcal.org/meetings.html

Sep 19: ASQ, "Why TQM Fails—Poor Change Management", Jim Harrington. Sign up online at www.asq-svc.org/dinner_meeting.html

Sep 20: ACS, "Hubble Space Telescope: Images of Saturn's Rings". Visit: www.scvacs.org/Local_Folder/din_mtg.html

Sep 27: ASME, "Enjoy Progress and Profit from a Diversified Engineering Career". Visit www.asme.org/sections/scvs/ASME_Newsletter_Sept_2001.pdf

Come to the Fall Picnic on Oct 6

The Fall picnic plans have been finalized! This year we will be holding our picnic on Oct. 6 at De Anza Park, located at 1150 Lime Drive in Sunnyvale. Food selection will be the usual marinated tri-tip (an ASMI-SCV tradition), barbequed chicken, and secret recipe baked beans. Vegetarian selections will be available upon request. The yummys will be available at approximately 1pm, but feel to come an hour or so early to socialize. The cost will be \$10 per person, and kids under 12 are free.

Please sign up in advance! Contact Paul Flowers at (408)756-0564 or paul.flowers@lmco.com.

Yearbook Advertising

The Yearbook Committee is presently developing a list of potential advertisers for the upcoming edition. If you have a business and might be interested in advertising or know of a company that might be interested, please contact Stacy Ewert at stacy.s.ewert@lmco.com or (408)756-4360. Advertisement in the Chapter yearbook is one of the best ways for companies to target an audience directly involved in the selection and use of materials, processes and testing. Proceeds from the yearbook help towards funding our Chapter's activities that are focused on advancing the knowledge and education of our members.

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Executive Committee Meetings: 4th Wednesday of Sep., Nov., Jan., Mar., and May at 6:30 pm at the Round Table Pizza at El Camino & 237. Any member can attend! Call, Wendy Chung at (408) 256-8614 to confirm the schedule and reserve a seat at the table.

2001-2002 Technical Program

Sept. 12	Materials Issues for Electricity Generation in the Near Future <i>Dr. John Stringer, EPRI, Palo Alto</i>	<i>Past Chair's Night</i>
Oct. 10	Thin Film Materials Science - An Update from Stanford <i>Prof. Bill Nix, Stanford University</i>	
Nov. 14	Electronic Packaging <i>Luu Nguyen, National Semiconductor</i>	
Dec. 12	<i>TBD</i>	<i>Companion's Night</i>
Jan. 9	The Metallurgy of Sputtering Targets <i>Daniel Marx, Materials Research Corporation (Division of Praxair)</i>	<i>SCV Fellow's Night</i>
Feb. 13	<i>TBD - Ceramics Topic</i>	<i>Joint with ACerS</i>
Mar. 13	Nanotechnology Overview <i>Barbara Jones, IBM Almaden Research</i>	
Apr. 10	<i>TBD</i>	<i>Joint with SAMPE</i>
May 8	Update on Battery Technology <i>Fritz Kalhammer, Consultant</i>	<i>Awards Night</i>