

Wednesday, May 8

Thermoelectric Materials: Status and Prospects

Roger Richman
Daedalus Associates, Inc.

Our May meeting is Awards Night, and we're having an election!

Please remember to indicate a meal selection when you sign up!

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: London Broil, Chef Salmon, or Vegetarian

RESERVATIONS REQUIRED:
Janine Kardokus at (408) 986-7568 or janine_kardokus@amat.com
Reservation deadline is noon on Monday, May 6

May Meeting Sponsor: EPRI



**The Materials
Information Society**
Santa Clara Valley Chapter
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Sunnyvale, CA 94089-0487

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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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Have You Moved Recently?

If so, please remember to correct your address by logging onto the national website, www.asminternational.org, where you can review and update your membership record.

About the Topic

Thermoelectric Materials: Status and Prospects

Thermoelectric materials convert thermal gradients to electricity, or electricity to thermal gradients. With this behavior, thermoelectrics can be used to generate electricity, provide cooling, or (less commonly) supply heat. However, they are costly and inefficient (less than 5% conversion efficiency is typical). In spite of their inefficiency, thermoelectric converters have been used to fulfill a number of specialized functions: electricity for deep space probes, localized cooling for charge-coupled devices, IR detectors, low-noise amplifiers, and computer chips. The development of efficient thermoelectric materials would make feasible the widespread use of thermoelectrics in more conventional generation and refrigeration applications. This talk will address the status of thermoelectric materials today, current research, and the prospects for significant improvement in the near term.

About the Speaker

Roger Richman

Daedalus Associates, Inc.

Roger Richman received his B.Sc. in Metallurgical Engineering in 1950 from the New Mexico Institute of Mining and Technology. Roger worked on the development of uranium production before taking a Ph.D. at Lehigh University in 1958. He then spent 17 years on the Engineering Research Staff at Ford Motor Company investigating methods of deformation and phase transformation in metals and alloys. While at Ford he also managed the development of the sodium-sulfur battery. From Ford he went to the Electric Power Research Institute where he was a project manager in the Fossil Fuels and Advanced Systems Division. In 1979 he became a founding member and general manager of Aptech Engineering Services in Palo Alto, and in 1985 he co-founded Daedalus Associates. Nowadays he performs assessments of emerging materials technologies for the electric power industry.

May Meeting Sponsor



ASMI-SCV would like to thank EPRI for sponsoring our May meeting. EPRI, the Electric Power Research Institute, was founded in 1973 as a non-profit energy research consortium for the benefit of utility members, their customers, and society. EPRI provides science and technology-based solutions of indispensable value by managing a far-reaching program of scientific research, technology development, and product implementation. We appreciate EPRI's support, which enables us to provide quality technical programming to our membership at a reasonable cost. For more information about EPRI, visit www.epri.com.

Interested in Biomaterials?

As we mentioned last month, our own Darel Hodgson is working on a national ASMI committee to expand our representation and service within the biomaterials industry. The committee will be making recommendations to ASMI at the end of May. If you have an interest in assisting in this exciting new area, or simply have some input for Darel, there is still time to do so! Contact Darel Hodgson at (408) 727-2221 or hodgsde@jmus.com.

May 8 is Awards Night

ASMI-SCV salutes those individuals who have maintained their membership over the years. Each May, we like to show our appreciation by distributing awards to new 5, 15, and 25 year members, as well as to those designated as "Life Members" (members who have reached the age of 65 years and whose years of membership combined with his/her age equal 100 or more). Additionally, we invite all *newly-inducted* 25 year and Life Members listed below to have dinner "on us" at the May meeting. This year's awardees are as follows.

5 Year Members

Steve Condos	John Paff
Matt Henneberg	Bernard Ross
Michael Hmelar	Bob Tousey
Michael Mattson	Thomas VanDiepen

15 Year Members

Ahmad Abusaud	George Hopple
Roger Asay	James Intrater
Stacey Baba	Dan Lutz
Jeffrey Bull	Jamie Sandoz
Tom Erichsen	Joe Sommers

25 Year Members

Robert Cargill	Jean McGregor-Johnson
Dale DuBois	Odell McWane
James Dunnegan	Jim Pence
Darcy Hughes	Randal Robinson
Roger McCarthy	

Life Member: William Scoble

Student Conference Day at SJSU

On Friday, May 10, San Jose State University senior students in both chemical and materials engineering programs will be presenting their design/research projects to an audience of fellow students, faculty, and industry partners. This is a great opportunity to see what the students are doing and help support their development and network-building. Furthermore, lunch will be provided to all attendees! If you would like to attend this event, please contact Dr. Richard Chung at (408)924-3927 or wrcchung@email.sjsu.edu.

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Upcoming Events

May 6-9: IEEE-CPMT, "International Symposium on Electronics and the Environment (ISEE)". Visit cpmt.org/scv/

May 8: IEEE-CPMT, "System-on-a-Chip: Testing Issues and Approaches". Visit cpmt.org/scv/

May 11: IEEE-SVCCS and NATEA, "Bioinformatics Conference 2002". Visit www.ee.com/grid/grid04.02/sum.htm

May 11: IEEE-SFPES, "One Day Short Course: Generator Theory and Design". Visit www.ee.com/grid/grid04.02/sum.htm

May 16: ASME, "Solder Joint Reliability". Visit www.asme.org/sections/scvs/ASME_Newsletter_May_2002.pdf

May 18: ASME, "Tour of Tamin Enterprises". Visit www.asme.org/sections/scvs/ASME_Newsletter_May_2002.pdf

May 21: AIChE - North Bay, "Learning from Incidents/Accidents - Why, Why, Why?" Visit www.aiche-norcal.org/meetings.html

May 21: ASQ, "Supplier Agreements and Outsourcing". Visit www.reachus.com/ASQC0618/Section%20Calendar.htm

May 21: SME, "Creating the Virtual Enterprise - Challenges for the Manufacturing Professional". Visit chapters.sme.org/098/

May 23: ACS, "Interesting Tidbits About Red and White Wine". Visit www.scvacs.org/newsletter/news0204.pdf

May 28: IEEE-LEOS, "Prosthetic Electronic Retina for the Treatment of Age-Related Macular Degeneration (ARMD)". Visit www.silicavalley.com

May 30: SME, "Indian Motorcycle Plant Tour". Visit chapters.sme.org/098/

Also, visit San Jose State's online discussion board at: www.engr.sjsu.edu/cgi-bin/cme/mate/mate.cgi

View an online version of this event listing at:

www.asm-scv.org

- Physical Test
- Chemical Analysis
- Metallography
- Microhardness
- SEM/EDS analysis
- Failure Analysis
- Non Destructive Insp.
- Welding Engineering



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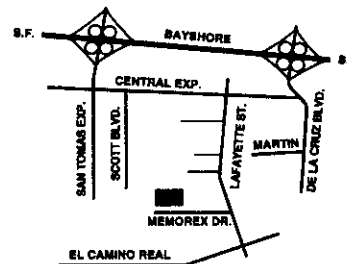
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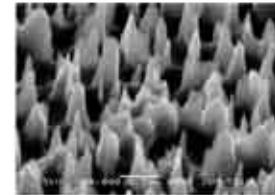
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Chapter Information & Upcoming Activities

Officers

Chair:

Jim Knowles is Acting Chair

Vice Chair:

Jim Knowles (650)728-3786

Treasurer:

Janine Kardokus (408)986-7568

Secretary:

Catherine Weathersby (408)742-6204

Executive Committee

Richard Chung (408)924-3927

Stacy Ewert (408)756-4360

John Ferrante (831)624-3966

Matt Henneberg (650)859-2701

Francis Honey (408)748-9955

Alfred Kwong (408)935-5805

Jen Lee (650)852-6371

HuiHui Lin (408)256-1072

Jacques Matteau (650)591-7787

Leonard Migliore (650)967-0977

Alison Olver (408)756-8187

Bob Petrusha (408)732-1356

John Stringer (650)855-2472

Lou Wirtz (408)756-0621

Special Positions

SVEC Rep:

Ed Kaminski (408)241-4842

Newsletter Editor:

Scott Dickerson (408)584-1013

Executive Committee Meetings: 4th Wednesday of Sep, Nov, Jan, Mar, and May at 6:30 pm, Round Table Pizza at El Camino & 237. Any member can attend! Call Jim Knowles at (650)728-3786 to confirm the schedule/location and reserve a seat at the table.

Thanks to our ASMI-SCV Sustaining Members:

Evans Analytical Group	Charles Evans, Jr.	San Mateo
CSU—Fresno	Henry Madden	Fresno
R.L. Engineering	Richard Lund	Placerville
Vivid Incorporated	John H. Comeau	Santa Clara

Would your company like to support the chapter by being a sustaining member? To find out more, contact Jim Knowles at (650)728-3786.

ASMI/SAMPE Scholarships Awarded

Each year the local chapters of ASMI and SAMPE (Society for the Advancement of Material and Process Engineering) award scholarships to two local university students. This year's awards went to **Ms. Liz Hergatt** of San Jose State University, and **Mr. Maxim B. Kelman** of Stanford University. Liz is in her second year of study towards a Bachelor's degree in Materials Engineering. Maxim is a Ph.D. candidate in the Materials Science & Engineering department. Both Liz and Maxim attended the award ceremony, held during the April 13th Joint ASMI/SAMPE meeting.

The applicant pool for this year's scholarships included 2 students from Stanford and 5 students from San Jose State. The 5 person selection committee was comprised of representatives from both ASMI-SCV and SAMPE. The committee's selections reflect a careful consideration of the applicants' past achievements, current efforts, and future plans.

The ASMI/SAMPE Joint Student Scholarship award was created to encourage undergraduate and graduate students to further their career in Materials Science or Engineering. This year the chapters decided to raise the scholarship to \$2,000 per student (from \$1,000 in previous years) in order to demonstrate our strong commitment to education in materials.

Congratulations Liz and Maxim!

Our Chapter year is over! Have a great summer, and we look forward to seeing you in September. Keep an eye on your e-mail and www.asm-scv.org for Chapter updates over the summer.

Ballot for 2002 Election and Revision to Bylaws

The Nominating Committee has finalized the ballot for this year's election. This year the nominations include 4 members new to our Executive Committee. We appreciate these individuals' willingness to participate in (and help lead) our Chapter.

How to vote

In order to vote, simply remove this sheet from your newsletter, fill in this ballot, and mail it to: ASM International, Santa Clara Valley Chapter, ATTN: Nominating Committee Chair, P.O. Box 60487, Sunnyvale, CA 94989-0487.

Better yet, simply attend out May 8th meeting and submit your ballot in person!

Officers (one vote for each office)

- Chair:** Janine Kardokus
- Vice Chair:** HuiHui Lin
- Treasurer:** Stacy Ewert
- Secretary:** Jacques Matteau

Executive Committee (vote for up to 4 of the following)

- Guilian Gao
- Mingwei Li
- Gabriel Toea
- Paul Fojas

Amendments to the Rules for Government

Shall the proposed amendments to the *Rules for Government of the Santa Clara Valley Chapter of ASM International* as published in the March 2002 Newsletter and on the chapter website be accepted? Yes No