

## Wednesday, February 11

### Bioceramics

Professor James F. Shackelford  
UC Davis

*ASMI Fellows Night & Joint Meeting with ACerS*

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:**  
Michael's at Shoreline  
2960 Shoreline Blvd.  
Mountain View  
(650)962-1014

**Dinner Cost:** ASM Members \$20, Students \$10, Guests \$25

*Meal Choices: New York Steak, Broiled Salmon, or Vegetable Brochette*

#### **RESERVATIONS REQUIRED:**

Stacy Ewert at (408) 742-2521 or [stacy.s.ewert@lmco.com](mailto:stacy.s.ewert@lmco.com)  
**Reservation deadline is 1pm on Monday, Feb 9 (\$5 late fee after this time)**

*Also: 2 tours this month... LLNL National Ignition Facility (page 2), and Laser Peening (page 5)!*



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#### Meeting Directions

To get to **Michael's at Shoreline** from highway 101, exit at **Middlefield Rd. / Shoreline Blvd.** Head **north** on **North Shoreline Blvd.** Michael's is at the end of North Shoreline adjacent to the Shoreline golf course, about 2 miles from 101.

### 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](http://www.asminternational.org), where you can review and update your membership record.

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## About the Topic

### Bioceramics

The application of engineered materials for biomedical applications can be traced to ancient times. We shall concentrate on applications in orthopaedic surgery, and note the implications of the development of robotic surgery for total hip replacement. We shall also focus on ceramics for biomedical applications, which have an interesting history, with the effort having been concentrated since the late 1960's. There are a variety of engineered ceramics for biomedicine, including materials that are inert, surface reactive, and resorbable. Recent advances cause us to focus on hydroxyapatite (HA), considering an HA/TCP/collagen composite for large bone defect repair and HA coatings for orthopaedic prostheses. Current areas of interest include biomimetic processing and the use of ceramics as delivery systems for bone morphogenetic proteins (BMP).

## About the Speaker

### Professor James F. Shackelford

#### University of California, Davis

James F. Shackelford has BS and MS degrees in Ceramic Engineering from the University of Washington and a Ph.D. in Materials Science and Engineering from the University of California, Berkeley. He is currently a Professor in the Department of Chemical Engineering and Materials Science at the University of California, Davis. For many years, he served as the Associate Dean for Undergraduate Studies in the College of Engineering and currently serves as the Director of the Integrated Studies Honors Program, an invitational, residential program for first-year students from a wide spectrum of majors. He teaches and conducts research in the areas of materials science, the structure of materials, nondestructive testing, and biomaterials. A member of the American Ceramic Society and ASM International, he was named a Fellow of the American Ceramic Society in 1992 and received the Outstanding Educator Award of the American Ceramic Society in 1996. In 2003, he received a Distinguished Teaching Award from the Academic Senate of the University of California, Davis. He has published over 100 archived papers and books, including *Introduction to Materials Science for Engineers* now in its 5th Edition and *The CRC Materials Science and Engineering Handbook* now in its 3rd Edition.

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*Yes, we are still seeking Meeting Sponsors!*

Contact Dave Himmelblau at (408)743-7893 for more information

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## Tour of LLNL National Ignition Facility

We are pleased to offer a tour of Lawrence Livermore National Laboratories (LLNL) National Ignition Facility (NIF) on **Saturday, March 13**. Our tour will include the crystal growing facilities at LLNL where gain media and frequency conversion crystals are grown for high power laser applications. Following this will be a tour of the 192-beam, 500 terawatt, 1.8 Megajoule National Ignition Facility (NIF). The Laboratory has activated the first four of its laser beams and has begun its first physics experiments. With just these first four beams, NIF already has the world's most energetic laser and has recently set single beam laser energy records for infrared, green, and ultraviolet laser beams. The tremendous energy available in NIF can be used to produce conditions of extreme temperature and pressure, similar to those that occur in stars and in exploding nuclear weapons. When completed, NIF will also be used to achieve inertial confinement fusion ignition with energy gain, which will provide researchers with a better understanding of the processes that occur in nuclear weapons and valuable data for future fusion energy production. This tour will provide a comprehensive look at the facility and will include presentations on NIF technology and laser system architecture along with a walk through the laser bays, control areas, and target bay. This should be a fascinating tour offering a rare glimpse at the cutting edge of today's scientific research!

The only catch is that we are required to go through very special steps in order to gain access to the facility. Specifically, visitors to NIF need to provide their personal information 2 weeks prior to the visit for a security screening. When you sign up, you must provide **your full name, birth date, affiliation, and social security number**. Foreign national citizens need to provide this same information and in addition need to provide **citizenship, place of birth, and valid passport and visa information including expiration dates**. The U.S. Department of Energy will process all foreign national requests for visits to LLNL, but there is no guarantee that your request will be granted. Foreign national citizens will be notified ahead of the visit date whether their visit request has been approved. Remember that no additional visitors can be added after the sign-up deadline of **Feb 27** in order to allow sufficient time to process all visitor badge requests. The minimum age for tour participants is 18.

In addition, the NIF is still a construction site, and so we must follow certain safety and dress requirements. No shorts, dresses, skirts, or sleeveless shirts are allowed. Shoes need to be fully enclosed and made of sturdy leather with laces and low heels. No tennis shoes, running shoes, sneakers, sandals, open-toed shoes, or high-heeled shoes will be allowed. You will be provided with a hard hat, safety glasses and clean room booties and hair nets for the tour. Disabled persons can be accommodated on the tour but we will need advance notice of any special requirements, such as wheelchair access.

In order to sign up, contact our ASMI-SCV Tour Coordinator, **Bob Wallace, at (408)867-4576 before Feb 27, 2004**. **When you contact Bob, you must provide all of the information indicated above and a call-back phone number. Sign-ups that are incomplete or late cannot be processed, and you will not be allowed into the facility!** As tour size is somewhat limited, we will only take 45 reservations.

The tour will start at **10am sharp on Saturday March 13**. We will meet in Livermore at the LLNL East Avenue Parking lot. To get there, take 580 East from 680, and exit at Vasco Rd. Head south on Vasco Rd. for approximately 2 miles until you reach East Ave. The parking lot is a left hand turn off of Vasco Rd. at the intersection of Vasco Rd and East Avenue. (Vasco Rd. is the 5th Livermore exit heading east off of Interstate Highway 580.)



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**Pete Miller 503-645-0665**

**Visit your chapter website!**  
[www.ASM-SCV.org](http://www.ASM-SCV.org)

## Be A Science Fair Judge!

Yes, it's that time again! The Synopsys Silicon Valley Science and Technology Championship is an annual event where local students (grades 6-12) present the results of their science projects to judges from local educational institutions and industry. It's a great opportunity for the students to further their science education, and we at ASM-SCV are happy to support the event by providing (together with the local SAMPE chapter) a team of Special Judges. The Special Judges review projects in particular areas (materials science, in our case), and present Special Awards (prizes and certificates) for the best projects in these areas. ASM-SCV has been involved in this event for years, and our volunteer judges always report that it is a fun and rewarding experience. This year we will divide our judges into 2 groups: grades 6-8, and 9-12. **If you would like to judge for the event, please contact Scott Dickerson at (408) 986-3655.** If you have a strong preference as to which age group you would like to judge, please indicate so when you sign up. The judging for this year's event will take place on Wednesday, March 17, 2004, from 10am until 5pm (a box lunch is provided). More information on the event itself can be found at [www.science-fair.org](http://www.science-fair.org).

## ASMI-SCV Fellows to be Honored at February Meeting

Each year ASM International honors a group of distinguished materials technologists for their career achievements by awarding them the title of ASM Fellow. These are individuals who have made great scientific and engineering contributions to their companies and universities, and their advancements have been a benefit to the technological community in general. As we noted in the October newsletter, we are proud that the 2003 class of Fellows includes one of our own SCV members. Each year we like to honor our Fellows at one of our meetings, and we also invite our newly-inducted Fellows (in this case Fellow) to be our guest at this meeting.

The Santa Clara Valley Chapter Fellows (along with their year of induction) are:

Edmund C. Burke	1970	Anthony T. Cape	1981	Richard E. Lewis	1991
Robert I. Jaffee	1970	Joseph C. Danko	1983	John C. Shyne	1991
Oleg D. Sherby	1970	Alfred Goldberg	1983	Elliott Willner	1991
Gerald M. Gordon	1975	Roger H. Richman	1983	Joshi Anne	1992
Walter E. Littman	1975	William C. Coons	1984	Tai-Gang Nieh	1992
Raymond W. Fenn	1976	Charles A. Rau	1985	Kenneth Challenger	1993
Claus G. Goetzel	1976	Ramaswamy Viswanathan	1986	Donald A. Shockey	1993
Thomas E. Tietz	1976	Prodyot Roy	1987	Alvin J. Jacobs	1997
Roger A. Perkins	1977	Jeffrey Wadsworth	1988	Donald R. Leseur	1997
Frank A. Crossley	1978	Elliot H. Rennhack	1988	John Stringer	1998
William D. Nix	1978	C. Sheldon Roberts	1989	Terry R. McNelley	2001
Howard G. Nelson	1980	Charles M. Packer	1990	Robert D. Caligiuri	2003

## Teachers' Materials Camp

For the last several months we've run reminders for the ASM Student Materials Camps. The application deadline for those events has now passed, but did you know that there is also a similar event for high school teachers? The format is analogous to the Student Materials Camp - it is a weeklong, residential, hands-on laboratory experience with the aim of assisting teachers in integrating applied engineering techniques into their classrooms. Participating teachers will leave with a comprehensive series of low/no cost laboratory demonstrations in applied science to use in chemistry, physics, math, technology, and industrial arts. The Faculty Instructors are a team of experienced "Master High School Teachers," university professors and industrial experts. A total of 30 high school science and technology teachers from North America will be selected. Housing, meals, tuition and curriculum tools will be provided free of charge, but participants must provide transportation to and from Teachers Camp.

The 2004 Teachers' Materials Camp Schedule is as follows:

"Blend" (Residential for non-local; Commute for local participants)


- Ann Arbor (University of Michigan), July 12-16
- Long Island (SUNY at Stony Brook), August 2-6
- Los Angeles, Dates TBA

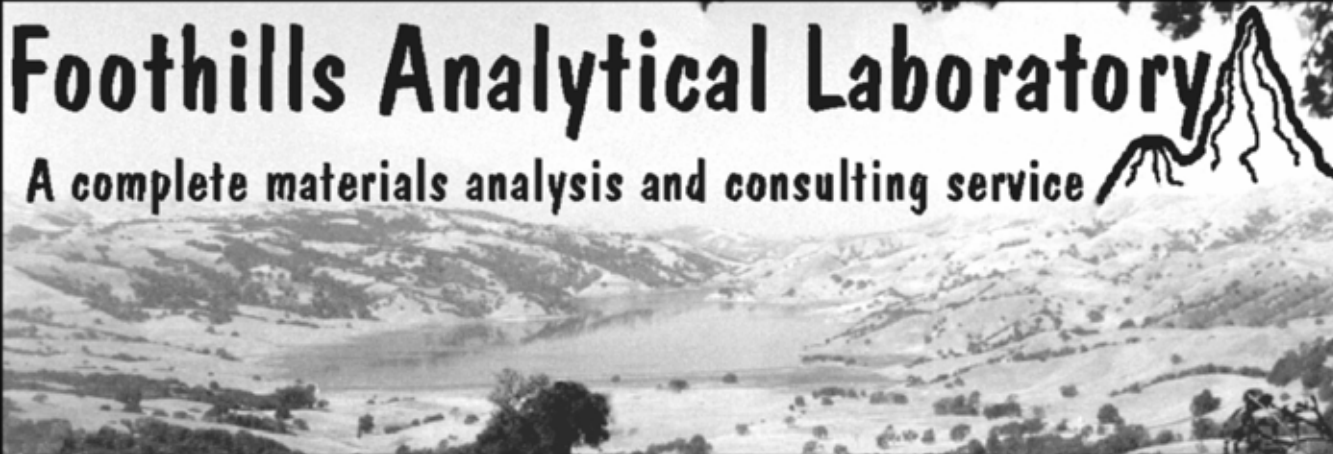
Nonresidential/Day Camps

- Albuquerque, June 21-26
- Houston, Dates TBA

If you know of a teacher that might be interested, have them visit [www.asminternational.org/foundation](http://www.asminternational.org/foundation) for more information (follow the "Materials Camp" and then "Teachers Camp" links on the left hand side). **The application deadline is Mar 31, 2004.**

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## ASMI-SCV Committees Need Your Help!

Many of you may not know, but the Santa Clara Valley chapter of ASM has 7 committees working throughout the year to provide services to the local membership, welcome new members, and generally further the causes of ASM International on a local level. Participation in chapter leadership is valuable to you in terms of networking with other prominent ASM members, contributing to the chapter's direction, and developing your leadership skills that will be helpful in furthering your career. This year the Committees are as follows.

**Technical Program:** Traditionally, this committee is chaired by the Chapter Vice Chair. The primary duty is to find and schedule speakers for the monthly dinner meetings. There is also an Arrangements Subcommittee, whose duties include collecting meeting fees, taking reservations, selecting meeting menus, arranging for presentation equipment, bringing door prizes, and finding a meeting facility from year to year. *Contact: Ramas Raman, [ramas@surmet.com](mailto:ramas@surmet.com)*

**Sponsorship:** This committee identifies meeting sponsors and advertisers for the chapter bulletin and website. This committee makes an important financial contribution to the chapter and provides an opportunity for member's companies to publicize their goods and services. *Contact: Dave Himmelblau, [dave.himmelblau@lmco.com](mailto:dave.himmelblau@lmco.com)*

**Membership:** This committee encourages membership in the ASM-SVC, including Sustaining Membership (special category for corporate members). The committee welcomes new members and encourages nonmembers to attend monthly meetings and become new members. *Contact: Fred Landry, [fred@altairusa.com](mailto:fred@altairusa.com)*

**Education:** This committee arranges and organizes chapter education such as classes and symposia. Members interface with local universities, high schools, and the "Discover E" program. They also endorse local participation in ASM International's Materials Camp events, and assist with annual Science Fair judging. Additionally, this committee leads the ASM-SCV Chapter Scholarship selection and award activities. *Contact: Mingwei Li, [mli@splasers.com](mailto:mli@splasers.com)*

**Yearbook:** This committee is charged with producing and distributing a yearbook (membership directory) for the chapter. *Contact: Shari Yokota, [shari.yokota@cpii.com](mailto:shari.yokota@cpii.com)*

**Publicity:** This committee publicizes the chapter's activities. It publishes and distributes the monthly newsletter, maintains the chapter website, submits articles to ASM International, and provides e-mail communication and other information of interest to the membership. *Contact: Scott Dickerson, [scott\\_dickerson@amat.com](mailto:scott_dickerson@amat.com)*

**Long Range Planning:** This committee functions to develop chapter direction to meet the future needs of the members. The committee uses information obtained from member surveys and feedback from the other committees to plan the future goals of the chapter. *Contact: Jacques Matteau, [Jacques@altairusa.com](mailto:Jacques@altairusa.com)*

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## Tour of Laser Peening Facility

On Tuesday, February 10 at 3PM, Metal Improvement Company will be offering a tour of its state-of-the-art Laser Peening facility in Livermore, CA, as well as a demonstration of the Laser Peening process in production, and a presentation on the science of laser peening and how the process is controlled. You may remember that we had a talk on subject of Laser Peening at last May's Chapter meeting. If not, visit [www.metalimprovement.com/laserpeen.htm](http://www.metalimprovement.com/laserpeen.htm) for an overview of this interesting process. Although initial production applications have been on rotating titanium turbine engine components, future applications will be found on titanium and aluminum aero structural components. Don't miss this opportunity to witness the this process first hand! The tour and presentation should last 1-1.5 hours total. To attend, please contact Rob Specht at Metal Improvement by email at [Rob\\_Specht@metalimprovement.com](mailto:Rob_Specht@metalimprovement.com) or by phone at (610)688-7873 for more information. Metal Improvement Company is located at 7655 Longard Road, Livermore, CA 94550 (if you need directions, Rob can provide them when you sign up).

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## Upcoming Events


**Feb 7** ASME, "Geometric Dimensioning and Tolerancing Seminar". Visit [www.asme.org/sections/scvs/](http://www.asme.org/sections/scvs/)

**Feb 11:** IEEE-CPMT, "Titanium 2 Package Development Tradeoffs". Visit [cpmt.org/scv/](http://cpmt.org/scv/)

**Feb 19:** ACS, "Chemistry of Brown (Chocolate)". Visit [www.scvacs.org/Local\\_Folder/din\\_mtg.html](http://www.scvacs.org/Local_Folder/din_mtg.html)

**Feb 22-27:** SPIE, "Microlithography 2004". Visit [spie.org/conferences/programs/04/ml](http://spie.org/conferences/programs/04/ml)

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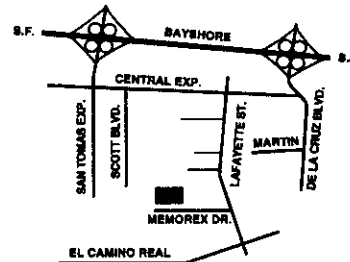
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## Chapter Information & Upcoming Activities

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Jacques Matteau (650)591-7787

#### Vice Chair:

Ramas Raman (408)567-0941

#### Treasurer:

Richard Chung (408)924-3927

#### Secretary:

Stacy Ewert (408) 742-2521

### Executive Committee

Mark Alexander (831)338-4790

Paul Fojas (510)538-7309

Ed Francis (408)653-1700

Dave Himmelblau (408)743-7893

Alfred Kwong (408)248-1916

Fred Landry (650)508-8700

Mingwei Li (650)966-5735

Lou Wirtz (408)756-0621

Shari Yokota (650)594-4065

### Special Positions

#### SVEC Rep:

Ed Kaminski (408)241-4842

#### Newsletter Editor:

Scott Dickerson (408)986-3655

### Thanks to our ASMI-SCV Sustaining Member:

CSU - Fresno Henry Madden Fresno

*Would your company like to support the chapter by being a sustaining member? To find out more, contact Fred Landry at fred@altairusa.com.*

**Executive Committee Meetings:** ASM-SCV Executive Committee meetings are held in September, October, January, March and May. Any member can attend! Call Jacques Matteau at (650)591-7787 for meeting times and locations, and to reserve a seat at the table.

# SM

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## Silicon Valley Engineers Week Banquet

As the culmination of our local celebration of National Engineering Week, the Silicon Valley Engineering Council (SVEC) will be holding their annual Silicon Valley Engineers Week Banquet of Friday, February 27 at the Santa Clara Marriott Hotel. This year the Hall of Fame Inductee will be Dr. Marcian E. Hoff, Jr., former Intel Fellow and currently Chief Technologist of Teklicon, Dr. Chang-Lin Tien, late Chancellor of the University of California at Berkeley and pioneer in heat transfer, and Steve G. Wozniak, Inventor of Apple Computers and Founder, Chairman, and CEO of Zeus. The Keynote Speaker will be Dr. Eric Drexler, Chairman of the Foresight Institute and prolific author on nano-systems. Dr. Drexler's talk is entitled, "From Nano to Zetta: Large Scale Engineering with Atomic Precision."

This event is a great way to connect with the local engineering community and support the theme of Engineers Week. If you are interested in attending the banquet or would like to find out more about participating in or sponsoring SVEC activities, visit [www.svec.org](http://www.svec.org) or contact Fred Jones at (650)604-1918 or [fjones@mail.arc.nasa.gov](mailto:fjones@mail.arc.nasa.gov).

While we're on the topic, it is worth noting that the entire last week of February is traditionally designated National Engineers Week. National Engineers Week ([www.eweek.org](http://www.eweek.org)) was launched 50 years ago as a way to showcase engineering's contributions to our quality of life. It is a time for local communities to recognize their engineers for professional and community service.

More importantly, National Engineers Week is also a time to help cultivate an interest in math, science, and engineering in our nation's youth with programs such as the *Discover "E"* (E for engineering) program. In our area, the Silicon Valley Engineering Council ([www.svec.org](http://www.svec.org)) coordinates a number of activities related to National Engineers Week. If you would like to learn more or become involved, visit the websites noted above or contact our own ASMI-SCV Education Committee Chair, Mingwei Li, at (650) 966-5735 or [mli@splasers.com](mailto:mli@splasers.com).

## Upcoming Meetings

**Mar:** Topic TDB

**Apr:** Materials Selection Software (joint with SAMPE)

**May:** Topic TBD (Student Night, Awards Night)

**Stay tuned for more info!**