



The Materials Information Society

www.ASM-SCV.org

Santa Clara Valley Chapter

March 2003

Volume 46, Number 7

Wednesday, March 12

Carbon Nanotube-Based Nanotechnology

Dr. Meyya Meyyappan
NASA Ames Research Center

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, Salmon, or Chef's Vegetarian

RESERVATIONS REQUIRED:
Stacy Ewert at (408) 742-2521 or stacy.s.ewert@lmco.com
Reservation deadline is noon on Monday, Mar 10

Our March Meeting is Joint with SAMPE.... Joint ASM-SAMPE Scholarship recipients will be announced!



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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.

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## About the Topic

### Carbon Nanotube-Based Nanotechnology

Carbon nanotubes (CNTs) possess a unique combination of remarkable mechanical and electrical properties. This combination offers significant potential for revolutionary applications in electronic devices, computing and data storage technology, sensors, composites, storage of hydrogen or lithium for battery development, nanoelectromechanical systems (NEMS), and even tips in scanning probe microscopy (SPM) for imaging and nanolithography. Given this broad range of technology, it is clear that any discussion of CNT synthesis, characterization and applications will touch upon all disciplines of science and engineering. NASA Ames has extensive work in progress in the areas of CNT growth, characterization, and applications, including CNT based sensors, microscopy, CNT-based logic circuit development and composites. This talk will give an overview of recent work in these areas.

## About the Speaker

### Dr. Meyya Meyyappan

#### NASA Ames Research Center

Dr. Meyya Meyyappan is Director of the Center for Nanotechnology as well as Senior Scientist at NASA Ames Research Center in Moffett Field, CA. He is a member of the Interagency Working Group on Nanotechnology (IWGN) established by the Office of Science and Technology Policy (OSTP). The IWGN is responsible for putting together the National Nanotechnology Initiative. Dr. Meyyappan's group, consisting of 65 scientists, has been engaged in carbon nanotube (CNT) based nanotechnology, inorganic nanowires, protein nanotubes, biosensor development, molecular electronics, quantum computing, computational electronics, computational optoelectronics, and computational nanotechnology. He is a member of IEEE, AIChE, AVS, ECS, and MRS. Dr. Meyyappan is also the IEEE Distinguished Lecturer on Nanotechnology and ASME's Distinguished Lecturer on Nanotechnology.


**Last Month's Sponsors:** Last month we noted that **Leco** sponsored our February meeting. However, just before the meeting, **Praxair** graciously offered to co-sponsor the February meeting. Praxair is a global company that supplies atmospheric, process, and specialty gases, high-performance coatings, and related services and technologies. We thank Leco and Praxair for co-sponsoring our February meeting. Indeed, we appreciate all of our sponsors' support, which enables us to provide high-quality technical programming at a reasonable cost.



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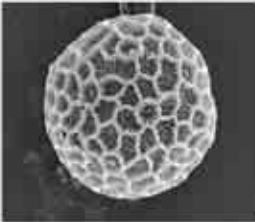
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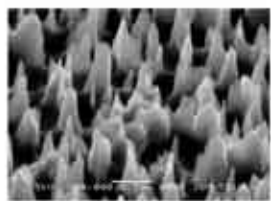
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## Upcoming Events

**Mar 11:** ISA "Valve Positioners". Visit [www.isanorcal.org/south\\_bay\\_meeting.html](http://www.isanorcal.org/south_bay_meeting.html)

**Mar 12:** ASCE, "Highway 101 Widening". Visit [www.asce-sf.org/events.html](http://www.asce-sf.org/events.html)

**Mar 12:** IEEE-CPMT, "Hey Buddy, Can you Spare a Paradigm?". Visit [cpmt.org/scv/meetings/cpmt0303.html](http://cpmt.org/scv/meetings/cpmt0303.html)

**Mar 17:** PMI, "Overcoming Impossible Projects". Visit [www.pmisv.org/evening.htm](http://www.pmisv.org/evening.htm)

**Mar 18:** AIChE, "The Future of Fuel Cells Panel Discussion". Visit [www.aiche-norcal.org/meetings.html](http://www.aiche-norcal.org/meetings.html)

**Mar 18:** Silicon Valley EOS/EDS, "ESD and EMI Challenges in Magnetic Recording: Past, Present, and Future". Visit [www.esdsva.org](http://www.esdsva.org)

**Mar 19:** ASQ, "Six Sigma and ISO 9001:2000/14001". Visit [www.asq-silicon-valley.org](http://www.asq-silicon-valley.org)

**Mar 25:** IEEE-LEOS, "Patents, Copyrights, Trademarks and Trade secrets, Oh my". Visit [www.silicavalley.com/archives/leosabs030325.html](http://www.silicavalley.com/archives/leosabs030325.html)

**Mar 27-29:** CITEA, "2003 CITEA Conference: A Bridge from the 50's to the Future- Technology Education". Visit [www.citea.org](http://www.citea.org)

**Apr 21:** PMI, "Team Essentials and Project Management". Visit [www.pmisv.org/evening.htm](http://www.pmisv.org/evening.htm)

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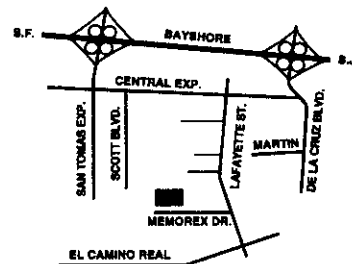
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## Chapter Information & Upcoming Activities

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

Evans Analytical Group	Charles Evans, Jr.	San Mateo
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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 Janine Kardokus at (408)986-7568.*

**Executive Committee Meetings:** ASM-SCV Executive Committee meetings are held in September, October, January, March and May. Any member can attend! Call Janine Kardokus at (408)986-7568 for meeting times and locations, and to reserve a seat at the table.

### Job Opening!

Northrup Grumman Marine Systems in Sunnyvale needs a Materials/Metallurgical Engineer for product support. Northrop Grumman Marine Systems provides steam turbines, gearboxes and missile launching systems to the US Navy. The ideal candidate will have a BS in Materials Engineering and 10 years experience in fabrication of machinery. Advanced degrees would be a bonus. Experience with high temperature materials, non-destructive testing, corrosion, casting, welding, failure analysis, military materials and process specifications, and laboratory analysis equipment would be expected. US citizenship required. Please submit your resumes to [ngms\\_jobs@northropgrumman.com](mailto:ngms_jobs@northropgrumman.com).

Visit our updated website: [www.ASM-SCV.org](http://www.ASM-SCV.org)

## Upcoming Technical Meetings

Mar 12	<b>Carbon Nanotube-based Nanotechnology</b> <i>Dr. Meyya Meyyappan, NASA-Ames Research Center</i>	<i>Joint with SAMPE &amp; Scholarship Awards</i>
Apr 9	<b>Microfluidics</b> <i>Dr. Nghia Chiem, Teragenics</i>	<i>Student Posters</i>
May 14	<b>Laser Shock Peening</b> <i>Dr. Lloyd Hackel, Lawrence Livermore National Laboratory</i>	<i>Awards &amp; Elections Night</i>

### Last Chance to Sign Up to be a Science Fair Judge!

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 industry and educational institutions. 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 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. **If you would like to judge for the event, please contact one of our Science Fair Coordinators: Bob Elliott at (916) 408-2370, or Al Kwong at (408)248-1916 (or [al\\_kwong\\_41@yahoo.com](mailto:al_kwong_41@yahoo.com)).** The judging for this year's event will take place on **Thursday, March 13** from 10am until 5pm. More information on the event itself can be found at [www.science-fair.org](http://www.science-fair.org).