



Serving the San Francisco, Oakland-East Bay, and Santa Clara Valley Sections of the IEEE
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[August, Sept Chapter Meetings](#) - summaries

[AdHoc Networks, Integrated Reliability conferences](#)

[Upcoming Conferences in the SF Bay Area](#)

[Helping with K-12 Children](#)

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Download the [August GRID.pdf](#) (1 MB)

The August issue of the **GRID.pdf** is full of opportunities to learn about new developments, master a new skill, and network with fellow professionals.

Check for updated information during the month at our **GRID** website: www.e-grid.net/

Chapter Meetings for August and September:

SCV-Nano - 8/17 (lunch): **"Atomic Force Microscope and Carbon Nanotube Probes"** - The unique mechanical properties and nanometer scale diameter of carbon nanotubes render them ideal as scanning probe tips ... [\[more\]](#)

SF-PES - 8/18: Summer Banquet **"Electric Power: Demand Response Issues in California"** - Two speakers on the prospect of blackouts for the West Coast, what California is doing, and how Demand Response figures into the equation ... [\[more\]](#)

SCV-SSC - 8/19: **"A Very Low Power CMOS Mixed-Signal IC for Implantable Pacemaker Applications"** - A single-chip, very-low-power interface IC for implantable pacemaker systems uses new circuit techniques to achieve nano-power circuit operations with sub-micron CMOS processes ... [\[more\]](#)

SCV-WIE - 8/25: **"RFID: the Next Big Thing for the Retail Industry"** - Insights into the emerging technology of RFID and how it can be leveraged today with minimal enhancements to the current IT infrastructure ... [\[more\]](#)

SCV-CPMT - 9/8: **"Alternative Packaging Technologies for 3-D Packaging"** - the need for higher speed, lower power, smaller form-factors, and even cost are driving system packaging to explore the third dimension ... [\[more\]](#)

SCV-MTT - 9/9: **"Microwave High Power Device Measurements in an Isothermal Environment"** ... [\[more\]](#)

SCV-SP - 9/13: **"Anytime, Anywhere IP Communications"** - convergence of Voice, Video and Data onto a single infrastructure is delivering new opportunities, such as a host of VoIP services -- the beginning of what could be a revolution in the way we work, live, play and learn ... [\[more\]](#)

SCV-EMB - 9/15: **Presentation on Boston Scientific Corp and a tour of the BSC Fremont Facility** - RSVP required -- there is room for only 25 attendees ... [\[more\]](#)

SCV-SSC - 9/16: **"Next-Generation Compact Modeling"** - Moore's Law scaling has led to ultra-short channel length devices with multi-GHz performance and a host of new challenges including a range of issues that face compact modeling of nano-meter scale technology ... [\[more\]](#)

SCV-CNSV - 9/21: **"Reliability Tools and Integration for the Manufacturing Phase"** - the majority of the reliability effort is spent in the design and prototype phase; what can be done to improve the reliability during the manufacturing phase? ... [\[more\]](#)

FREE Admission to Most Events at WESCON - Sept 21-23 [\[more\]](#)
You can get a free pass to the pavilions (Design & Analysis, Test & Measurement, Power Components, Supply-Chain Management, RFID), plenary talks, the autonomous-vehicle showcase, job fair, and much more -- everything except NANOWorld and the Tutorials. Spend a few days in Anaheim at WESCON next month and catch up on new developments and trends. See the two-page announcement in the [GRID.pdf](#) for more details and a copy of the registration form.

OEB-IAS - 9/23: **"Changes in Industrial Power Management Systems"** - changes are being driven by PC operating systems: easier integration of power management into computer systems, the move away from the traditional human machine interfaces, the use of artificial intelligence to maintain power quality, and the technologies being implemented through the Web ... [\[more\]](#)

SCV-PSES - 9/28: **"Central Office Power & Ground Requirements and Design Solutions"** - a close look at bonding and grounding, from definitions to regional implementations; power considerations for different powering architectures; consideration of specific NEBS and ILEC requirements ... [\[more\]](#)

The Council Marketplace

Do you require someone with special skills -- RF, reliability, communications, design, patent consultations? ... PCB layout, thermal measurements, SCSI, SANs? See our [Council Marketplace](#) page. Thank you for supporting our advertisers.

SF-IAS - 9/28: **"Interrupting Capacity and Short-Time Current Ratings"** - ratings of molded-case, insulated-case, and low-voltage power circuit breakers and their effect on time-current coordination ... [\[more\]](#)

SCV-EMS - 9/29: before-dinner talk - **"The Art of Commitment and The Science of Change"** - a forum on conquering corporate change ... after-dinner talk - **Walking A Tightrope with Resilient Packet Rings - A Startup Story** - insights to guide developers in anticipating changes and planning workarounds in the midst of changing requirements; challenges faced in working with engineering teams distributed around the globe ... [\[more\]](#)

SCV-CPMT - 10/13: **"A Novel X-ray Microtomography System with High Resolution and Throughput For Non-Destructive Imaging of Advanced Packages" and "µCT Techniques In Combined 2D/3D High Resolution X-ray Systems"** - two approaches to 3-D X-ray inspection for failure analysis, with practical examples and images ... [\[more\]](#)

SCV-SSC - 10/21: **"Power-Performance Optimization Methods for Digital Circuits"** ... [\[more\]](#)

SCV-EMB - 10/20: **"Cochlear Implants for Profound Hearing Loss - Signal Processing Considerations"** - overview of the auditory system, then focus on signal processing in cochlear implants from early models to current multichannel implants and impact on speech perception and sound quality ... [\[more\]](#)

SCV-SSC - 10/21: **"Power-Performance Optimization Methods for Digital Circuits"** ... [\[more\]](#)

IRW'04 provides a unique environment for envisioning, developing, and sharing reliability technology for present and future semiconductor applications. All Workshop activities take place in a relaxed and rustic setting that promotes an atmosphere of interactive learning and knowledge sharing.

Sessions on: Gate Oxides - Interconnects - Hot Carriers - NBTI - high-k Dielectrics - posters

9 Tutorials (included in fee):

Gate Oxide Lifetime and Breakdown Degradation

Alternate gate Dielectrics using C-V and I-V Electrical Metrics

High-k Dielectrics: Instabilities, Defects

EM Reliability-Cu/Low k Interconnects

Advanced Back End of Line Reliability

NBTI: What we know and need to know

Modeling NBTI: Kinetics to Circuits

Reliability of TFTs - Process to Device Issues

A single Registration Fee includes sessions, tutorials, proceedings, cd-rom, lodging and all meals. A student rate is available.

Please review the full program at www.e-grid.net/conf/irw.html. Space is limited, so please register as soon as possible.

October 4-7, 2004 at the Santa Clara Marriott

The convergence of the Internet, communications and information technologies, coupled with recent engineering advances, is paving the way for a new generation of inexpensive mobile devices, sensors and actuators. SECON'04 addresses the emerging field of sensor and ad hoc networks and systems for a broad range of applications relating to critical infrastructure protection and security, health care, the environment, energy, food safety, production processing, quality of life, and the economy.

Sessions on Applications - Routing - Security - Quality of Service - Testbeds and Simulators - Data Analysis - Theoretical Models - Energy-efficient Design - Communications Architectures - MAC Protocols - Coverage - Localization - Network and Transport Layers - Connectivity and Topology Management - Data Gathering and Tracking - Network Management - plus Panels

Four Tutorials:

MAC Protocols for Wireless Sensor Networks

Location Discovery in Sensor Networks

Low Power Sensor Network Development with IEEE 802.15.4 and TinyOS Networks of Mobile Sensors

Review the Advance Program and registration form at www.e-grid.net/conf/secon.html

Summary of Upcoming Bay Area Conferences -- find one in your technical specialty

AUGUST:

August 16-19: **IEEE Computational Systems Bioinformatics Conference** on the Stanford University campus [\[more\]](#)

... keynote speakers, poster presentations, and tutorials for bioinformatics' eclectic mix of disciplines. See the one-page flyer in the [GRID.pdf](#), or visit www.e-grid.net/conf/csb.html.

August 22-27: **International Conference on Ferrites (ICF 9)** in San Francisco [\[more\]](#)

... science and technology of ferrites and related materials, more than 250 presentation. Reduced-rate registration through July 23. See the one-page flyer in the [GRID.pdf](#), or visit www.e-grid.net/conf/icf.html.

August 25-27: **IEEE Hot Interconnects Symposium** at Stanford University [\[more\]](#)

... high-performance chips, software, and systems ... multiprocessor and system-level interconnects. See the one-page flyer in the [GRID.pdf](#), or visit www.e-grid.net/conf/hoti.html.

SEPTEMBER:

Sept 1-5: **IEEE Int'l Conference on Engineering in Medicine and Biology (EMBC'04)** Westin St. Francis Hotel, SF [\[more\]](#)

... Technical Sessions, Workshops, Tutorials, Seminars, "Best Practices" roundtables, more. Reduced rates through July 1. See the one-page flyer in the [GRID.pdf](#), or visit www.e-grid.net/conf/emb.html.

Sept 12-15: **IEEE International SOC Conference (SOCC'04)** Santa Clara Hilton, Santa Clara [\[more\]](#)

... advances in **Systems-on-Chip** technologies and applications -- Design Methods, Design Tools, Design Automation, Manufacturing, and Test. Visit www.e-grid.net/conf/socc.html.

Sept 21-23: **IEEE Wescon/2004**, Anaheim Convention Center [\[more\]](#)

... Includes **NANOWorld**, **Enterprise Integration EXPO**, the Autonomous Vehicle Technology Showcase, exhibits -- owned by engineers and run by engineers to benefit engineers. Most events are **free**. See the two-page flyer and registration form in the [GRID.pdf](#), or visit www.e-grid.net/conf/wescon.html.

Sept 27-30: **GSPx: the International Embedded Signal Processing Conference and Exhibition**, Santa Clara Convention Center [\[more\]](#)

... Includes **Executive Summit**, Technical sessions and workshops, exhibits. Visit www.e-grid.net/conf/gspix.html.

FREE IEEE Professional Development Workshops - [more]

Tuesday, Sept 28 -- from IEEE-USA:

- "**Taking Charge of Your Destiny: The New Rules for Career Success**" (2 hours)

- "**Networking for Success**" (2 hours)

- "**Project Management**" (4 hours)

Organized by IEEE*USA and PACE, attendance at these PD Workshops is **free** with the (**free**) admission pass to the GSPx Expo at the Santa Clara Convention Center. Sign up today! See www.e-grid.net/conf/gspix.html

OCTOBER:

Oct 4-7: **SECON'04: IEEE Int'l Conf on Sensor and Ad Hoc Communications and Networks**, Santa Clara Marriott [\[more\]](#)

addressing the new generation of inexpensive mobile devices, sensors and actuators, and a broad range of applications.

Oct 18-21: **IRW'04: IEEE Int'l Integrated Reliability Workshop**, Stanford Sierra Camp, near Lake Tahoe [\[more\]](#)

... ensuring semiconductor reliability through component fabrication, design, characterization, and analysis tools, including Cu-interconnects & low-k dielectrics, reliability of deep sub-micron, high speed, high frequency devices (e.g. SiGe), SOI devices, reliability modeling & simulation, and the reliability of future technologies such as molecular electronics and carbon nanotubes.

K-12 Education Committee Needs Volunteers!

It's Back to School time in the Santa Clara Valley! The IEEE Santa Clara Valley K-12 Education committee needs volunteers to assist with...

- Book sorting
- Tutoring and mentoring
- Teaching teachers
- Funding/Donations

Our K-12 Opportunities This Year:

August: Future City (mentor middle school students) 0-1 hrs week/15 weeks

September: Lego Robotics (middle school) 2-3 hrs week/ 1 - 6 weeks

October: Lego Robotics (middle school) 2-3 hrs week/ 1 - 6 weeks

November: Lego Robotics (middle school) 2-3 hrs week/ 1 - 6 weeks

December: Gift of Reading: book sorting at San Jose Mercury 2-4 hrs week/ 1 week

- Lego Robotics mentor
- Science Fair judges
- Laser Optics

Can you help out? Please see our listing of opportunities (right) and call David Fong 510-687-4507 or [email dafy@ieee.org](mailto:dafy@ieee.org) to see where we can best use your talents in helping children.

January: Lego Robotics (middle school)
 February: Botball Training, 2-3 hrs week/ 1 - 6 weeks
 February: Lego Robotics (middle school)
 February: Engineer's Week
 February: Tech Challenge, 2-3 hrs week/ 1 - 6 weeks
 March: Synopsys Science Fair (sciencepalooza)
 March: Science Fair Judge (Santa Clara Valley)
 October-May: Mentor High school students interested in Engineering
 May-June: Career Fair (high school) 2-3 hrs week/ 1 - 4 weeks

More Details at www.ewh.ieee.org/r6/scv/k-12/

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Technologists who are not members of IEEE are **encouraged to subscribe, at no cost, to this e-GRID Newsletter**, to find opportunities to "network" with the electrical engineering community and hear about Chapter events through our twice-monthly emails. This is a controlled list (ie, no spam) -- [get more information](#). You provide your own subscribe/unsubscribe services and can join and leave this IEEE DList when desired. To update the list, send an email message to:

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Please invite other non-Member technologists in the Bay Area to join this list, to receive notification of Chapter meetings, tutorials, workshops, conferences, and other news within the San Francisco Bay Area Council, IEEE. See <http://www.e-grid.net/>

Correspondence to [Paul Wesling](#), Council Communications Director