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JANUARY 2004

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Forest Avenue in Palo Alto**

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345 Forest Avenue

Palo Alto, CA 94301

Tel: 650 327-6622

Fax: 650 321-9692

E: ma.turner@ieee.org

IEEE Grid is the monthly newsmagazine of the San Francisco Bay Area Council of the Institute of Electrical and Electronics Engineers, Inc. As a medium for both news and opinion, the editorial objectives of IEEE Grid are to inform readers in a timely and objective manner of newsworthy IEEE activities taking place in and around the Bay Area; to publish the official calendar of events; to report on IEEE activities on a national and international scope; and to serve as a forum for comment on areas of concern to the engineering community by publishing contributed articles, invited editorials and letters to the editor.

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Editor: Doug Davolt
IEEE GRID
278 W. 42nd Avenue
San Mateo CA 94403
Tel: 650 571-0119\
Fax: 650 571-5585
E: d.davolt@ieee.org
www.ieee-sfbac.org

From the editor . . .

The Council Office has Moved!

Last month the Council, in a cost cutting action, selected a new location for the office at considerable savings. Effective December 1 the new headquarters for SFBAC can be found at . . .

**345 Forest Avenue
Palo Alto CA 94301**

"It's a great new location," according the Council Manager Marilyn Turner. "It's just three blocks away from our University Avenue building and is in the Laning Chateau at the corner of Forest and Gilman in downtown Palo Alto."

The phone number and fax number remains the same. There is a parking structure on Bryant Street between Hamilton and Forest.



*Council Office Manager Marilyn Turner
in the lobby of Laning Chateau*

The 2004 roster of Section and Chapter Officers will appear in the February issue rather than this month as originally planned.

NOTE: IEEE GRID.pdf is a monthly publication and is issued a few days before the first of the month. It is not updated after that. Please refer to the Online edition and interactive calendar for the latest information.

THURSDAY JANUARY 8

SCV Microwave Theory & Techniques Society

Subject: **Trends in MMIC Frequency Multipliers**

Speaker: Dr. Edmar Camargo (Fujitsu Compound Semiconductor Inc)

Time: Refreshments and social hour at 6:00 p.m., presentation at 7:00

Place: Agilent Technologies, Santa Cruz Conference room, 5301 Stevens Creek Blvd, Santa Clara

RSVP: Not required

Trends in MMIC Frequency Multipliers

Dr. Edmar Camargo will be the featured speaker at the January 8 meeting of the Santa Clara Valley Microwave Theory & Techniques Society. His talk will discuss several aspects involved with frequency multipliers in MMIC technology. Specifically, it will discuss reasons for this function and its importance in a communication system; review of the basic FET multipliers theory and extension to high frequency performance; a preferred design approach through the use of sophisticated non-linear analysis tools; and the most common topologies in use by circuit designers.

Edmar Camargo received the Master and Doctor degrees in electrical engineer from the University of São Paulo in Brazil. For many years he was involved in teaching and consulting for industry in several areas of microwave art. He also spent some time in France working on a special fellowship at the PTT research center.

In 1993 Dr Camargo moved to the U.S. where he worked for Hewlett Packard on the design of mmwave RF transceivers and for Fujitsu Compound Semiconductor Inc on the design of several MMIC components. He is author of more than 30 papers and of a book on Frequency Multipliers. He served the MTT Santa Clara Valley Chapter in 1998-99, was vice-chair for the Workshops in the 1996 San Francisco International Microwave Symposium, and is member of MTT Technical Program Committee. Since year 2000 Dr Camargo has become director of engineering at Fujitsu-FCSI.

TUESDAY JANUARY 13

SCV Electromagnetic Compatibility Society

Subject: **Time Domain Reflectometry for EMI Analysis and Troubleshooting**

Speaker: Orin Laney (Kaiser Electronics, Inc.)

Time: Social at 5:30 p.m., presentation at 7:00

Place: Applied Materials Bowers Cafe, 3090

Bowers Avenue, Santa Clara

RSVP: Not required

**Time Domain
Reflectometry for EMI
Analysis and
Troubleshooting**

Signal integrity problems are often the root of EMI problems. Time domain reflectometry is a powerful way to view transmission systems in order to spot and diagnose signal integrity issues. Orin Laney will discuss this issue at the January 13 EMC meeting. The talk will start with TDR theory, then use a live TDR demonstration to illustrate various principles. Examples will include coax, waveguide, microstrip, LAN cable, and perhaps an antenna or two. As time permits, cables and adapters will be accepted from the audience and tested in real-time, preferably ones that you suspect have problems. Remarks concerning the care and handling of microwave rate bit streams and similar challenges will conclude the talk.

Orin Laney is an EMC and signal integrity specialist at Kaiser Electronics in San Jose. This division of Rockwell Collins manufactures video displays for aircraft cockpits. Orin's background includes designing really strange aerospace instrumentation, running his own manufacturing company, and providing a type of special effect for Hollywood production use. He enjoys writing and speaking, and is fluent in video circuitry and other high speed analog and mixed signal areas.

A senior member of the IEEE and a NARTE certified EMC engineer, Mr. Laney is a graduate of the University of Maryland (BSEE) and

WEDNESDAY JANUARY 14

SCV Communications Society

Subject: **From Wireless Technologies to
Mobile Services - OMA Overview**

Speaker: Dr. Wen-Pai Lu (Cisco Systems)

Time: pizza and sodas at 6:30 p.m.,
presentation at 7:00

Fee: \$1 donation to partially cover food cost

Place: National Semiconductor Credit Union,
Bldg. 31, 955 Kifer Rd., Sunnyvale

RSVP: rsvp@comsocscv.org

Web: <http://www.comsocscv.org>

From Wireless Technologies to Mobile Services - OMA Overview

The wide deployment of wireless technology has spurred the growth of the mobile industry in the last several years. From the traditional voice services to the more advanced wireless data access, consumers and enterprise users alike are experiencing a new wave of mobile services.

With today's fragmented market, and multiple platforms used in offering various kinds of mobile services, the key opportunity for future growth would be an implementation of open and global specifications and standards for a unified service platform that enables seamless interoperability among different devices, networks and backend systems. Open Mobile Alliance (OMA) was formed to address the growing market of an interoperable mobile service across global markets, operators, and mobile devices.

Dr. Wen-Pai Lu, Cisco Systems, will discuss this issue at the January 14 meeting of the Santa Clara Valley Communications Society. He will present a brief introduction of OMA, its mission, objectives, and goals for achieving such vision among all working groups in OMA. The talk will particularly focus on the specification development in the Mobile Web Service (MWS) working group. He will also touch upon the architecture considerations and development in OMA. Other working groups within OMA will be briefly mentioned and reference materials will be provided for future research and exploration.

Wen-Pai Lu is a senior network architect at Cisco. He had been a principle consultant, project leader, customer solutions manager, and researcher. His interests include wireless, security, and the Internet. He received his PhD in computer and electrical engineering from University of Arizona.

Continued on next page

Dr. Wen-Pai Lu is very active in the standard communities, including the Open Mobile Alliance (OMA) in the Mobile Web Service group developing mobile web specifications, and in the Mobile Wireless Internet Forum (MWIF) where he served as a co-chairman for the Proof of Concept (POC) and architecture working groups in MWIF and developing security solution for IP Radio Access Network (RAN) in all-IP mobile wireless network.

He was one of the founding members of the LAN Security Working Group (IEEE 802.10) developing security standards for IEEE 802 LANs and MANs. He was also active in ATM Forum, Frame Relay Forum, as well as FDDI (ANSI X3T5) standard groups. In the ATM Forum, he was involved in the development of LANE, and also served as an ATM Forum ambassador for Asia Pacific. He has published more than 18 technical papers and is a patent holder.

SAN JOSE STATE UNIVERSITY ELECTRICAL ENGINEERING DEPARTMENT

Applications are invited for tenure-track faculty positions in Electrical Engineering. Analog electronics, Mixed-Signal design, VLSI and Communication areas are emphasized. However, consideration is given to all related areas.

Rank is open and salary is commensurate with qualification.

Earned doctorate in Electrical Engineering or related disciplines is required for tenure-track positions. Employment is contingent upon proof of eligibility to work in the United States. Research, consulting and summer employment opportunities are available. The university is the oldest and one of the largest in the California State University System. It is located in the heart of Silicon Valley, the southern end of the San Francisco Bay Area.

Resume, names and addresses of three references should be submitted to:

**Dr. Masoud Mostafavi, Chair
Department of Electrical Engineering
San Jose State University
San Jose, CA 95192-0084**

San Jose State University is an Equal Opportunity/Affirmative Action Title IX employer; committed to creating a Community in which a diverse population can learn and work in an atmosphere of inclusion and respect for each individual.

WEDNESDAY JANUARY 14

SCV CPMT and LEOS

Subject: **Organic LED Display Technology and Applications**

Speaker: Homer Antoniadis (OSRAM Opto Semiconductors)

Time: Seated dinner (vegetarian available) at 6:30 p.m., presentation at 7:30

Place: Ramada Inn, 1217 Wildwood Ave (Fwy 101 frontage road, between Lawrence Expressway and Great America Parkway), Sunnyvale, (800 888-3899)

Cost: (dinner) \$25 if reserved before Jan. 10, \$30 after that - register and prepay for dinner in one step from your PayPal account or credit card

RSVP: Aerman@lightwavemicro.com - reserve for presentation-only if not attending the dinner.

Organic LED Display Technology and Applications

An overview of organic light emitting diode (OLED) display technology and its applications will be given by Dr. Homer Antoniadis at the January 15 joint meeting of the Santa Clara Valley CPMT and LEOS chapters.

The OLED device structure and operation mechanisms will be described. Two different OLED technologies will be compared, those made by vacuum deposition of small molecules and those made by solution processing of polymers. The long term processing and fabrication potential of polymer OLEDs will be contrasted to the most recent full color demonstrators and product introductions of small molecule OLEDs. Examples of display products and demonstrators, made from small molecules and polymers, will be described in detailed.

Dr. Homer Antoniadis is a product development group manager at OSRAM-OS and has overall responsibility of designing, engineering, developing, and launching the company's first display products based on light emitting polymers.

Previously, Dr. Antoniadis was a member of the organic light-emitting diode team at the Hewlett-Packard Labs in Palo Alto where he contributed extensively to HP's R&D effort on OLED display technology.

In the early 1990s Dr. Antoniadis worked at the University of Rochester and Xerox Corporation on organic optoelectronic devices with emphasis on xerographic photoreceptors, photodiodes/ photovoltaics, and light-emitting diodes. He received his BSc in Physics from University of Ioannina, Greece and his PhD degree in transport physics of amorphous silicon from Syracuse University. Dr. Antoniadis is the organizer and member of program committees of multiple OLED technical symposia. He is the author of more than 40 publications in refereed journals and is a named inventor on 11 U.S. patents.

THURSDAY JANUARY 15

OEB Communications Society

Subject: **Layer 4-7 Load Balancing Switches**

Speaker: Gopala Tumuluri (Foundry Networks)

Time: Pizza at 6:30 p.m., presentation at 7:00

Place: Bishop Ranch 1, 6101 Bollinger Canyon Road, San Ramon (just off I-680)

RSVP: (by Jan. 14) oeb@comsoc.org or 925 968-0979 for pizza order

Info: Victor Stepanians, 925 968-0979 or vicstepanians@ieee.org

Web: <http://www.comsoc.org/oeb/>

Layer 4-7 Load Balancing Switches

Many of you may recall the multi-billion dollar acquisitions of ArrowPoint Communications and Alteon Web Systems and by Cisco and Nortel respectively. While those glory days are history, the market for “load balancing Switches” continues to grow, as IP and Web applications have become the norm rather than the exception.

Today’s Enterprises and Service Providers face numerous challenges in managing mission-critical web applications. These challenges range from protecting the servers from increasing security threats to improving the high availability and manageability of applications to scaling computing capacity with low-cost commodity servers. Layer 4-7 load balancing switches have evolved to be the leading choice of the world’s most demanding customers to secure and scale server farms.

Gopala Tumuluri will address this topic at the January 15 meeting of the Oakland East Bay Communications society. His presentation will help you understand the use of load balancers to scale web application server farms to support millions of clients. You will get an update on load balancing technology and applications from one of the pioneers in the load balancing market.

Gopala Tumuluri is the product marketing manager at Foundry Networks for the Multi-Layer Switching Business Unit. Foundry is a provider of high-performance end-to-end switching solutions for enterprises and service providers.

Mr. Tumuluri has been in the networking industry for more than eight years. Prior to joining Foundry in July 2003, he held product management and marketing, and engineering positions at Elematics, Calient Networks, and FORE Systems. He graduated with an MBA from Carnegie Mellon University in December 2000, and an MS degree in computer science from the University of Kentucky.

The chapter will continue its feature at the meeting of providing some networking time for those that want to stand and make a brief announcement. If you’re looking for a new position, have a position to fill, want to let us know that your new start-up is ready for business, or have a similar announcement, bring your resumes, job descriptions or company brochures and be prepared to make a match. Please keep your statements brief, so we’ll have time for everyone. There will be time before and after the formal meeting for one-on-one discussions.

THURSDAY JANUARY 15

SCV Solid State Circuits Society

Subject: **On-chip RF Isolation Techniques**

Speaker: Dr. Tallis Blalack (Cadence)

Time: Refreshments 6:30 p.m., presentation
at 7:00

Place: Cadence Design Systems, Building 5,
2655 Seely Ave, San Jose

RSVP: Not required

On-chip RF Isolation Techniques

On-chip isolation is a function of many interdependent variables. Dr. Tallis Blalack explain this at the January 15 meeting of the Santa Clara Valley Solid States Circuits Society. His talk will use industry examples to highlight isolation impacts of technology - substrate doping levels and triple wells, grounding schemes, guard rings, shielding, capacitive decoupling, and package inductance.

Tallis Blalack has been working on substrate noise coupling issues for the past ten years. His work started at Stanford University for his PhD under Professor Bruce Wooley. It continued at Snaketech, where he set up the U.S. office and helped direct the SubstrateStorm product. Snaketech was acquired by Simplex Solutions in March of 2000, and Simplex was then acquired by Cadence Design Systems in June of 2002. At Cadence Dr. Blalack serves as a technical marketing architect for extraction and substrate products.

TUESDAY JANUARY 20

IEEE Consultants Network of Silicon Valley

Subject: **The Secrets to Successful Networking**

Speaker: Jeff Colvin (Link Management Consulting)

Time: Networking at 7:00 p.m., presentation at 7:30

Place: Sheraton Hotel, 1100 North Mathilda Avenue, Sunnyvale

RSVP: Not required (seating is limited so arrive early)

The Secrets to Successful Networking

Nearly 80 percent of you will land your next sale, find your new job, or learn something valuable through networking. But how many of us are networking effectively? Jeff Colvin, principal of Link Management Consulting, and facilitator of the Secrets of Successful Networking workshop discovered that there are very few naturally born networkers, and concluded that the rest of us needed a process.

The process of networking is composed of three very simple phases broken down into the before, the during, and the after. Each of these phases can be applied to seven different networking situations ranging from the business mixer, and the professional organization gathering to formal network groups and friends and family.

The topic for the evening will cover the strategies and tactics that are fundamental to any networking activity and hone in on the approaches to use while engaged in networking at professional organizations, like IEEE. Specific areas of focus address the

targeting of your audience, setting of goals, how to enter and exit conversations, and what to do with the business cards after you have collected them. Practical tools and concepts will be presented that should create a change in your networking process and allow you to enhance the value and effectiveness of your contact strategy.

Jeff Colvin is principal of Link, a management consulting group based in Silicon Valley. For the past seven years Link has been providing companies with process improvement training and consulting to reduce costs and cycle time in their key business processes. He ensures that the core concepts introduced to all of his clients have practical application and sustainability to positively impact their business.

Jeff began his career in management consulting almost 20 years ago and has served over 50 client organizations ranging from Hewlett Packard and Apple Computers to small start-ups. Throughout his career Jeff has developed many new client relationships, trained and lead consulting teams, and played a major role as a partner in helping grow two different consulting practices. He is well versed in planning and organization and has an unbroken track record relative to achieving client satisfaction and results.

Jeff affiliated with SJSU Professional Development in 1998 and has designed and delivered workshops for over 800 participants in corporate climates ranging from SBC to Lockheed Martin. His workshops on project management and process improvement have all been very well received with overall scores of 4.7 out of 5 on the average. He is also on the faculty for the University of Phoenix and trains operations management for the graduate and undergraduate students.

Jeff received his Bachelor of Science degree from UC Davis and went on to achieve an MBA from California State University, Sacramento. He is currently partnering with the San Jose Silicon Valley Chamber of Commerce with an offering of the Business Owners Forum, a place for small/medium sized business owners to share best practices and hold each other accountable. He is a member of the SJSV Chamber Board of Directors and a member of the Advisory Council of the Commonwealth Club.

TUESDAY JANUARY 20

SCV Magnetics Society

Subject: **Performance and Manufacturability of Discrete Track Recording Media**

Speaker: David Wachenschwanz (Komag, Inc.)

Time: Coffee and conversation at 7:30 p.m.,
presentation at 8:00

Place: Komag, 1710 Automation Parkway,
San Jose

RSVP: Not required

Performance and Manufacturability of Discrete Track Recording Media

Since at least 1963, patterning discrete magnetic tracks onto a magnetic recording disk has been investigated due to its potential advantages for recording performance, especially in enabling higher track densities. By pre-formatting the media with physically defined tracks, the burden currently imposed on the drive servoing and mechanics as well as the tolerance requirements for the write-head-track-width control are relieved because write-to-write track mis-registration (TMR) is greatly reduced and the process used to pattern the disk surface governs the data track width.

As a result, the conventional “write-wide, read-narrow” head design is no longer needed. Instead, the writer and reader width can now be made equal to or greater than the pre-formatted data track width. This change in the head design philosophy can result in a 2-dB improvement in signal-to-media noise ratio (SNR) and a 4-dB improvement in signal-to-electronic noise ratio (SNR_e) for a discrete-track-recording (DTR) medium. Additionally, the wider read width increases the minimum line width needed, easing the manufacturability of the read head.

Other advantages of DTR media include being able to pre-format servoing information onto the disk and thus avoiding a drive-level servo-writing process, elimination of side-writing issues since there is a physical, unrecordable guard band between the data tracks as well as an ability to adjust head fly heights in contact start stop zones or head load/unload zones to improve drive reliability. The elimination of side-writing effects should help to improve overwriting and also is advantageous when perpendicular heads are used with large skew angles.

Continued on next page

While the benefits for the recording performance of DTR media are significant, a cost-effective manufacturing process for creating such a disk with adequate electrical and tribological performance has not been realized in the past. In this January 20 presentation by David Wachenschwanz, a new method for creating a cost-effective DTR disk will be described that utilizes nano-imprint lithography (NIL) techniques to pattern a land-and-groove structure into the substrate of the disk before the magnetic layers are sputtered.

A cost analysis of this process will be provided showing that while the cost of the disk will be increased, the overall cost of producing a drive can be lowered due to savings in head and servo-writing costs. Data will be presented showing the tribological and corrosion performance of such a disk as well as recording performance measurements showing the ability of the grooves to magnetically isolate the lands on which data are recorded. Data on both longitudinal and perpendicular DTR media will be presented.

David Wachenschwanz has been involved in the magnetic recording industry for 20 years with a focus on magnetic recording physics and how it affects the recording performance of heads and media. Since 1990, he has been at Komag, Inc. in San Jose, the largest independent supplier of thin film recording media to the hard disk drive industry. At Komag, he is head of the Advanced Magnetic Recording Group and has the responsibility for developing, designing and characterizing recording media for future generation disk drive products.

Previously, he worked for Kodak Research Laboratories in San Diego on heads and recording tape development. He has numerous technical publications regarding recording heads, media and recording physics and has given many talks on these topics for conferences, seminars and short courses. He graduated in 1990 with a MS in applied physics from the University of California at San Diego where he did his thesis work at the Center for Magnetic Recording Research. He is a senior member of IEEE.

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IEEE IAS

The 11th Annual IEEE Industry Applications Society Electrical Safety Workshop will be held February 10-13 at the Marriott City Center Hotel in Oakland. Full details of the this workshop and on-line registration is available at www.ewh.ieee.org/cmte/ias-esw/

For the first time, there will be parallel sessions on Wednesday and Thursday afternoons, as a way to enable attendees to better customize their Workshop experience. An optional Friday afternoon tutorial is scheduled on the 2004 Edition of NFPA70E, The Standard for Electrical Safety Requirements for Employee Workplaces.

WEDNESDAY JANUARY 21

SCV Engineering in Medicine & Biology Society

Subject: **Intelligent Agents for Diagnosis of Dementia**

Speaker: Maurice Cohen, PhD and Donna Hudson, PhD (UCSF)

Time: Dinner at 6:30, presentation at 7:30

Place: Dinner in the Stanford Hospital Cafeteria, presentation in Room M114 of the Stanford Medical School

RSVP: Not required

Intelligent Agents for Diagnosis of Dementia

Signal analysis data, especially electrocardiogram (ECG) and electroencephalogram (EEG) data, provide important information for clinical decision-making. In order to arrive at a diagnosis, it is often necessary to combine these results with other clinical parameters. A promising approach utilizes intelligent agents, a procedure that involves the development of a central mechanism that provides communications among differing methodologies and different information types to produce a comprehensive solution to the problem. Specific agent methodologies include knowledge-based approaches, neural networks, and chaotic modeling of nonlinear dynamical systems.

The combined system has been shown to provide accurate diagnosis of cardiac disorders in a series of studies done over the last five years. In addition to the diagnostic results, the model supplies a list of weighted parameters relevant to the decision. Each of these three components of the model is based on new theoretical developments. These methodologies will be illustrated in a decision model for diagnosis of dementia, emphasizing new approaches for pre-processing and determination of summary measures for EEG data.

Dr. Maurice Cohen is professor of radiology at UCSF, and a faculty member in both the Graduate Group in Biological and Medical Informatics and the Joint Graduate Group in Bioengineering, UCSF and UC Berkeley, and is also professor of mathematics at California State University.

Dr. Cohen has a PhD in applied mathematics and theoretical physics. For the past two decades he has been applying these methods to applications in biomedicine, including expert systems, neural network modeling and chaos theory, and has over 200 publications in this area. Dr. Cohen is a fellow of the American Institute for Medical and Biological Engineering and the recipient of a number of research awards. He is also an internationally recognized and award-winning artist and exhibits his painting in Paris as well as California.

Dr. Donna Hudson is professor of family and community medicine at UCSF and a faculty member in both the Graduate Group in Biological and Medical Informatics and the Joint Graduate Group in Bioengineering, UCSF and UC Berkeley.

Dr. Hudson has a PhD in computer science from UCLA and has over 200 publications in the areas of computer decision support, artificial intelligence applied to medicine, neural network modeling, and analysis of biomedical signals. Dr. Hudson is past-president of the International Society for Computers and Their Applications, vice president for financial affairs for the IEEE Engineering in Medicine and Biology Society, fellow of the American Institute for Medical and Biological Engineering, and fellow of the IEEE.

THURSDAY JANUARY 22

OEB Industry Applications Society

Subject: **Solar Electric Generation**

Speakers: Matt Muniz (Alameda County Energy Program) and Howard Wenger (PowerLight Corporation)

Time: No-host social at 5:30 p.m., presentation at 6:15, dinner at 7:15, presentation continues at 8:00

Place: Marie Callendar Restaurant, The Garden Room, 2090 Diamond Blvd., Concord (nearby to Concord Hilton Hotel - 925-827-4930 for directions)

RSVP: (by January 21) Gregg Boltz, 925 210-2571 or <mailto:gboltz@brwncald.com>

Cost: (dinner) \$22 for IEEE members; \$25 for non-members

Solar Electric Generation

The January 22 meeting of the IEEE Industry Applications Society for the Oakland East Bay Section will feature a discussion on the subject of solar electric generation. This meeting will offer everyone an informative update on the current state of the art in solar electric generation by the use of photovoltaic panels. Converting natural sunlight to electric energy is a clean, passive and renewable process. It is also more environmentally friendly than other methodologies currently in use. However, as with any construction project, there are economic hurdles that must first be cleared in order for solar projects to be viable. All of these aspects will be discussed.

We are fortunate that California has been receptive to alternative forms of generation including solar. Already some very sizeable solar generation projects have been installed here in the Bay Area on the rooftops of buildings. One such project will be reviewed in detail. Also a general overview and status summary of what is happening today in the solar electric generation and photovoltaics industry will be provided

The speaking duties at this meeting will be shared by Matt Muniz, the energy program manager for Alameda County, and Howard Wenger, executive VP of PowerLight Corporation. Matt Muniz will focus on the recently completed 1.18 MW solar generation project at the Santa Rita County Jail facility in Dublin, California. Fourteen of the jail's housing units were outfitted with rooftop solar panels which cover about three acres of surface area. It is the largest rooftop solar electric installation in the United States. Howard Wenger will focus on discussing the overall status today of the solar electric generation and photovoltaics industry.

Continued on next page



Matt Muniz has overseen Alameda County's energy program for the past 11 years, and has effectively reduced the County's annual energy costs by \$4.5 million and secured over \$9 million in energy incentives. His first task with the County was to bid on PG&E's first demand-side management pilot program, PowerSaving Partners. Alameda County was one of eight partners selected for this 20 mW, 10-year program. After two year's of implementing energy efficiency projects under this program and achieving over 1 mW of demand savings, the County began receiving monthly incentive checks totaling \$360,000 per year and over \$1,000,000 in annual energy cost savings.

Prior to the energy crisis in 2000, Mr. Muniz first envisioned reducing the County electrical costs through on-site renewable energy. He then acted as the project manager for the award-winning Santa Rita Jail Solar Power Project. For his achievements, he was awarded the 2002 International Energy Manager of the Year by the Association of Energy Engineers. He is a 1986 engineering graduate from Cal Poly, San Luis Obispo and is a licensed mechanical engineer in the State of California.

Howard J. Wenger is executive vice president of PowerLight Corporation located in Berkeley, CA. PowerLight Corporation is a leading provider of large-scale solar electric products and services. Mr. Wenger's expertise is in developing and

implementing business strategies and government policies for transforming solar photovoltaic (PV) power into the mainstream of energy. He is dedicated to making solar power a significant part of the world's energy portfolio. Mr. Wenger has been working in the renewable energy and energy efficiency fields for almost 20 years, during which time he authored and helped secure a number of important pieces of national and statewide policy and legislation designed to speed the commercialization of solar power.

Prior to joining PowerLight, Mr. Wenger served as vice president, North American Business, for AstroPower Inc., one of the world's largest independent solar power companies. Prior to joining AstroPower, he co-founded Pacific Energy Group, a leading renewable energy consulting firm that developed a new framework and software tools for analyzing the customer-value of solar power generation, as well defining commercialization programs, legislation, and regulatory policy at state and national levels.

Mr. Wenger also worked for Pacific Gas & Electric Company in the technical and economic valuation of renewable and distributed energy resources within electric utility grids. He received a Bachelors degree in environmental studies at the University of California, Santa Barbara, and a Masters of Science in engineering from the University of Colorado, Boulder. He has authored more than 60 technical papers and reports concerning various aspects of the energy business.

TUESDAY JANUARY 27

SCV/EMC Product Safety Technical Committee

Subject: **Tour of Elliott Labs Fremont Facility**

Speakers: Eddie Pavlu and David Bare
(Elliott Laboratories)

Time: Dinner and social at 5:30 p.m.
(beverages and sandwiches will be
provided compliments of Elliott),
presentation and tour at 7:00

Place: Elliott Laboratories, 41039 Boyce Rd.
Fremont

RSVP: (to plan the food and beverages) Julia
Luke, 408 463 0885 Ext. 112 or
jluke@ccsemc.com

After complimentary sandwiches and beverages, Eddie Pavlu, president and CEO of Elliott Labs, will discuss the planning that went into the building of Elliott's Fremont Facility, which features a 10-meter anechoic chamber and two 5-meter anechoic chambers. This facility went from shell to on-line in six months.

A tour of the facility will be included as part of the formal presentation. David Bare, Elliott's chief technical officer, will then discuss common areas where EMC and product safety overlap. This discussion will focus on areas where EMC and PS design considerations and requirements may conflict. Topics covered will include power supplies, filtering, shielding, and grounding techniques.

**Tour of Elliott Labs
Fremont Facility**

WEDNESDAY JANUARY 28

SCV Reliability Society

Subject: **Best of ISTFA**

Speaker: Art Rawers (Xilinx)

Time: Refreshments at 6:30 p.m.,
presentation at 7:00

Place: Hewlett-Packard, Oak Room, Bldg 48,
Pruneridge Avenue, Cupertino

RSVP: Not required

SCV Reliability

The International Symposium for Testing and Failure Analysis (ISTFA) provides a forum for the latest developments in wafer, chip, package, and board level test and failure analysis. The 29th ISTFA was held November 2-6, 2003, in Santa Clara. Information on ISTFA is available on the web at <http://www.asminternational.org/ms/electronicdevicefailureanalysisociety/istfa/home.htm>.

The January 28 Santa Clara Valley Reliability Society meeting will feature a panel discussion of selected papers from ISTFA. The panel is being organized by Art Rawers. We are looking for additional panel members, especially ISTFA attendees. If you are interested in helping select papers, being on the panel, leading a discussion, or contributing in another way, please e-mail us at reliability@ieee.org.

Best of ISTFA



Jim V. Leonard, PE
2003 IEEE-USA President

Congress called on to Enact L-1 Visa Legislation

Congress should enact legislation requiring that the use of L-1 visas not displace U.S. workers, according to a position recently adopted by IEEE-USA.

L-1 visas, which have no annual limit, were originally intended to enable multinational corporate executives, managers and employees with special skills to work temporarily at subsidiaries in the United States. The program is increasingly being used, however, to move foreign guest workers into the country as a source of lower-cost contract labor, resulting in the displacement of U.S. workers. Several foreign

corporations have established U.S. subsidiaries for that specific purpose. The L-1 visa has become more attractive since the annual limit on H-1B visas fell to 65,000 on 1 Oct.

A 2003 General Accounting Office report cited State Department figures showing that the number of L-1 visas issued rose from 38,307 in FY 1998 to 57,721 in FY 2002. This increase parallels the rise in U.S. high-tech unemployment. In 1997, electrical and electronics engineers were unemployed at a rate of 1.0 percent, according to the Bureau of Labor Statistics. By the third quarter of this year the figure was 6.7 percent.

IEEE-USA's position is "that the (science, engineering and technology) unemployment problem is exacerbated by the continuing admission of substantial numbers of foreign professionals on temporary visas. Most (U.S. IEEE members) are justifiably outraged when they learn that some employers are taking advantage of loopholes in the nation's immigration laws to replace citizens and legal permanent residents with lower-salaried foreign workers on temporary visas such as the L-1."

IEEE-USA is also urging Congress to require U.S. companies to pay L-1 visa holders prevailing U.S. wages and establish other appropriate safeguards for U.S. and foreign workers

IEEE-USA supports the USA Jobs Protection Act of 2003 (S. 1452, H.R. 2849), companion bills introduced by Sen. Christopher Dodd (D-Conn.) and Rep. Nancy Johnson (R-Conn.) The purpose of the legislation is to ensure that the H-1B and L-1 visa programs are utilized for the purposes for which they were intended, and not to displace American workers with lower cost foreign visa holders, by closing the loopholes in the programs and strengthening enforcement and penalties for violations of laws.

The "L-1 Visa (Intracompany Transferee) Reform Act of 2003" (S. 1635) and the "L-1 Nonimmigrant Reform Act" (H.R. 2702) were also introduced in Congress this year.

Patent Agent

Jay Chesavage, PE
MSEE Stanford
3833 Middlefield Road, Palo Alto, CA 94303
patents(at)chesavage(dot)com
TEL: 650-494-9162
FAX: 650-494-3835

DR. FLOYD M. GARDNER

Consulting Electronics Engineer
Phaselock, Communications
Synchronization, Signal Processing
1755 University Avenue
Palo Alto, CA 94301 (650) 328-8855
Website: www.fmgardner.com

James Long, Ph.D., P.E. **Analog and RF Consulting Engineer**

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ishakour@shax-eng.com www.shax-eng.com

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r.c.ayeras@technology-writer.com
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