



The Analog

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CENTRAL TEXAS CONSULTANTS NETWORK MEETING Thursday, January 2, 1997

Time: Social & Networking: 6:00 PM
Meeting: 6:30 PM
Place: Red Lion Inn (Restaurant)
Austin, TX

Mr. Joe Gajda will present Evolution of the Semiconductor Industry and Its Effect on Characterization Technology, and his company's services:

- Discuss the Workshop and the Consultant's Networks future direction.
- How can the members receive/provide support for the network?

Directions: Northeast corner of I-35 and 290-E (north of 183)

For more information, call:

Georgetown.....B. Thorpe (512) 863-8621
SA.....Paul Alesu (210) 558-7270

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LASERS AND ELECTRO-OPTICS SOCIETY (LEOS) MEETING Monday, January 13, 1997

Time: Reception: 3:30 PM
Program: 4:00 - 5:00 PM
Place: J.J. Pickle Research Campus
Microelectronics & Engineering Research Ctr, Bldg. 160
Conference Room 2.114
Austin, TX

Speaker: Kevin L. Lear
Sandia National Labs

Program: High-Efficiency Vertical Cavity Surface Emitting Lasers

The unique geometry of vertical-cavity surface-emitting laser (VCSEL) diodes engenders manufacturing and operational advantages, but it also poses challenges. Small active volumes necessitate multilayer mirrors and lateral index structures to achieve small optical losses. Electrical losses due to high series resistance also hampered early VCSEL diodes. This lecture highlights engineering considerations for reducing the combined optical and electrical losses in these devices that have led to highly efficient (50%) operation. The efficiency improvement and associated developments are discussed in the context of

the more general outlook for VCSELs and the push towards practical significance.

Biography: Kevin Lear received his BSEE degree (1984) from the University of Colorado and his MSEE (1985) and PhD (1990) degrees from Stanford University where he was an Office of Naval Research Fellow and his thesis topic was resonant tunneling diodes. He joined Sandia National Laboratories in Albuquerque, NM as a Senior Member of Technical Staff in 1990. His primary research area at Sandia has been in compound semiconductor optoelectronics with an emphasis on enhancing the performance of vertical cavity surface emitting lasers (VCSELs). This has included work on integrating transistors and VCSELs for smart pixels, coherent laser arrays, VCSEL based optical interconnects, mirror grading designs and fabrication for improved electrical characteristics, the use of oxides for improved optical characteristics, and most recently investigating the high speed operation of VCSELs.

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IEEE POWER ENGINEERING SOCIETY MEETING Thursday, January 16, 1997

Time: Social: 6:30 PM
Dinner: 7:00 PM
Program: 8:00 PM
Place: Krause's Cafe
148 Castell
New Braunfels, TX

Speaker: Tim Williamson
Alexander Utility Engineering
Program: Underground Transmission Lines Materials and Methods

This will be a review of the major competing technologies available for the construction of underground high voltage transmission lines with an emphasis on the advantages and disadvantages inherent in the different materials and methods of construction.

Biography: Tim Williamson received a Bachelor of Science in Electrical Engineering with an emphasis on power from Louisiana Tech University in May, 1980. Upon graduation, he went to work for Gulf States Utilities Company in Beau-

mont, TX. At Gulf States Utilities, he designed distribution, substation, and transmission facilities at voltages from 2400 volts to 500 KV. Also at Gulf States he got his first exposure to underground line design with 35 KV distribution systems and a 69 KV tie line between two substations. In 1987, Mr. Williamson became a consulting engineer and project manager for a large utility consulting firm. Mr. Williamson performed numerous studies for utilities considering underground transmission systems and was the project manager for the design of a 138 KV underground line project for City Public Service of San Antonio. Currently, Mr. Williamson is an electrical engineer with the firm of Alexander Utility Engineering, Inc. in San Antonio, TX.

Reservations: Call by Wednesday, January 15.

KerrvilleD. Aldrich 1-800-257-2883
AustinBill Kahane (512) 473-3324
SADoug Evans (210) 978-2839

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IEEE CENTRAL TEXAS SECTION Thursday, January 16, 1997

Time: Social: 6:30 PM
Dinner: 7:00 PM (We will order from the menu) (\$10, students \$5)

Program: 8:00 PM

Place: Tree Tops Restaurant
New Braunfels, TX

Program: Review of Section Activities

Section and Society officers will review meeting and financial activities for the past 12 months. This will also serve as final review for the annual activity and financial reports to be submitted to IEEE headquarters.

Each society should be represented at the meeting. All members are encouraged to attend to stay up to date on section activities and offer suggestions for future directions.

Directions: From I-35, take the McQueeney exit (FM 725) and proceed west on Seguin Street toward downtown New Braunfels. Enter the circle downtown and take the first right on San Antonio Street. Tree Tops is on the right just before you reach the bridge.

Reservations: Reservations are required by NOON on Tuesday, January 14th.
 Austin.....Kelly Butler (512) 452-2811
 SA..... M. Abdolsalami (210) 431-2047
 or e-mail to kbutler@infinity.ccsi.com
 m.abdolsalami@ieee.org

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**ACOUSTICS, SPEECH and SIGNAL
 PROCESSING/COMMUNICATIONS
 SOCIETY**

Thursday, January 23, 1997

Time: *Social:* 6:30 PM
Dinner: 7:00 PM (\$10 Mem-
 bers/\$5 Students)
Program: 8:00 PM
Place: Tree Tops
 New Braunfels, TX
Speaker: Bill Bunton
 Tandem Computers
Program: System Area Networks -
 Cluster Interconnect
 Technology

Improvements in the price/performance of standard computer technology products is dramatically changing the face of commercial computing. It is now more cost-effective for small and large companies alike to consider a new class of applications characterized by huge requirements for processing, storage, or communications bandwidth. Examples of this type of application are multimedia,

image processing, decision support and the Inter/intranet.

Although clustered, standard computer products can provide the necessary processing power for these commercial applications, most lack crucial attributes of reliability and scalable data throughput.

A system area network (SAN) is a system architecture that extends the system concept beyond a single cabinet. Tandem Computer's ServerNet is a fully functional system area network solution which provides the attributes of reliability and scalable data throughput.

Biography: Bill Bunton is a member of the small team that developed the System Area Network concept and its embodiment. Bill is a design engineer for Tandem Computers where he has been employed for eight years. He has been working within data communications and the computer industry for 20 (plus) years. Bill holds four patents, and is a Past Chairman of the IEEE Central Texas Computer Society.

Directions: From I-35, take the McQueney exit (FM 725) and proceed west on Seguin Street toward downtown New Braunfels. Enter the circle downtown and exit on San Antonio Street. Tree Tops is on the right just before you reach the bridge.

Reservations: VERY helpful (before noon January 21):

Austin Les Johnson (512) 250-4228
 New Braunfels/San
 Marcos W. Rogers (210) 885-4411
 SA Scott Atkinson (210) 456-2101

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**COMPUTER SOCIETY
 January 1997**

The Computer Society intends to have a January meeting. Details are not available at time of printing. Please look for email and Web postings in early January for information or contact:

Bob Morgan
 (rmorgan@tsd.itg.ti.com) or
 John Swartz
 (alexander.swartz@polaris.dhs.state.tx.us)

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QUERY: If you are an IEEE member living in the U.S. with a presence on the World Wide Web, how would you like to have us link to your home page from an IEEE U.S. Member Web Directory? Drop me a line at c.brantley@ieee.org.

| CALENDAR OF MEETINGS FOR JANUARY 1997 | | | | |
|---------------------------------------|---------|-----------|--|--------|
| MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY |
| | | 1 | 2 CONSULTANTS' NETWORK MTG (Austin) | 3 |
| 6 | 7 | 8 | 9 | 10 |
| 13 LEOS MTG (Austin) | 14 | 15 | 16 IEEE POWER SOCIETY MTG (New Braunfels) SECTION MTG (New Braunfels) | 17 |
| 20 | 21 | 22 | 23 ASSP/COMM SOCIETY MTG (New Braunfels) | 24 |
| 27 | 28 | 29 | 30 | 31 |

ANNOUNCEMENTS

PRESIDENT CLINTON ANNOUNCES INTERNET INITIATIVE

President Clinton announced on Oct. 10 a series of initiatives to promote the Internet and its use in research and education, including \$100 million in FY 1998 federal funding to support the first stage of a "Next Generation Internet Initiative."

The Internet Initiative aims to usher in the next millennium's information infrastructure by attaining the following goals:

- Connecting at least 100 universities and national labs with high-speed networks that are 100 - 1000 times faster than today's Internet.
- Promoting experimentation with the next generation of networking technologies.
- Demonstrating new applications that advance important national goals such as scientific research, national security, distance education, environmental monitoring, and health care.

As a way of broadening educational use of electronic communications, Clinton invited comment on the Federal Communications Commission's proposal to provide free Internet access to local schools and libraries. The president urged that this initiative be funded through the Universal Access subsidy established in the 1995 Telecommunications Reform Act.

IEEE-USA has posted on the Web an issue brief on the Administration's Internet Initiatives with copies of the Clinton speeches, a white paper and a press conference with senior administration officials. See URL www.ieee.org/usab/DOCUMENTS/FORUM/ISSUES/Internet.html.

IEEE-USA OFFERS NEW TOOL FOR THE CITIZEN-LOBBYIST

IEEE-USA has released, as a resource for aspiring policy activists, THE ENGINEER'S GUIDE TO INFLUENCING PUBLIC POLICY. The GUIDE contains 12 informative chapters covering such topics as the "Washington Visit," arranging grass roots meetings, using the World Wide Web as a resource for activism, and "Seventeen Cardinal Rules for Dealing with Congress." Individual copies of the GUIDE are available free of charge to IEEE members from the IEEE-USA Office. Volume orders are available at a nominal fee for duplication, shipping and handling. THE ENGINEER'S GUIDE is also available on the World Wide Web at URL www.ieee.org/usab/DOCUMENTS/FORUM/LIBRARY/guide.html.

HELP SPONSOR THE 1997 FARADAY LECTURE

IEEE-USA has teamed with IEEE Educational Activities and IEEE Regional Activities to sponsor the U.S. broadcast of the 1997 Faraday Lecture via satellite on Feb. 4. Titled BUT WHAT'S THE USE OF IT, MR. FARADAY?, the 1997 program will demonstrate the concept of electromagnetism and show how it is used in medicine, industry, commerce and leisure. To receive the free broadcast, schools will require a satellite downlink facility. IEEE-USA Chair Daniel R. Benigni is asking for volunteers to help identify interested schools, identify downlink sites or answer students' questions when the lecture is broadcast.

For more information or to volunteer your services, please contact IEEE-USA's Ann Hartfiel at 202-785-0017,

ext. 341, or a.hartfiel@ieee.org; or IEEE Educational Activities' Gail Latzko at 908-562-6526 or g.latzko@ieee.org.

NOMINATIONS SOUGHT FOR IEEE-USA ELECTROTECHNOLOGY TRANSFER AWARD

IEEE-USA's R&D Policy Committee is seeking nominations for the 1997 Electrotechnology Transfer Award, which honors individuals for achievement in transferring or applying federal or state sponsored developments in advanced electrical, electronic and computer technologies to successful commercial sector opportunities.

For more information or an application, contact Paul Johnson at 202-785-0017, ext. 320, or p.johnson@ieee.org.

APPLICATIONS SOUGHT FOR 1998 CONGRESSIONAL FELLOWSHIPS

IEEE-USA is soliciting applications for 1998 Congressional Fellowships. Congressional Fellows spend a year working for a Member of Congress or congressional committee, learning first hand how public policy is made while contributing their technical knowledge and personal experience to the process. Fellows receive a salary stipend plus a small expense allowance. Applicants must be IEEE members (four years or more at Member grade or higher), U.S. citizens, and have at least ten years of professional experience (with credit for graduate study). The deadline for receipt of applications is March 31, 1997.

Contact Sharon Richardson, s.richardson@ieee.org for a Congressional Fellows Application Kit. Be sure to provide a mailing address.

