



Dallas Section

Direction

Volume 49, Number 8

April 2006

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From the Chair

by Kaijian Shi

As a way of expressing our appreciation to outstanding members, IEEE Dallas Section will hold an Award Banquet on April 29th at the Holiday Inn Select in Richardson. This event includes: Dinner, Drinks, Awards, Casino Tables, some great Gifts, and the perfect opportunity to do some networking. Please mark your calendar and contact Dr. Gerry Burnham burnahm@utdallas.edu for early registration. I feel unfortunate for not being able to join you at the Award Banquet, because I shall be away at IEEE VISI-DAT to present two papers during the event. Nevertheless, the gratitudes from the bottom of my hart to our officers and contributing members remain the same.

I am very pleased to inform you that all our 18 chapters in Dallas Section have been active with good momentum, including the newly founded Education and Power Electronic chapters which have already scheduled chapter meetings. I'd like to thank our chapter chairs for successfully leading their chapters and our members for supporting the chapters. Special thanks to CVT, AP, CE, EMC and CAS chapter officers for organizing "Wireless Multimedia Symposium" (http://www.cvt-dallas.org/details.htm), "EMC Colloquium" (http://www.dallasemc.org/futmtqs.html#COLLOQUIUM), and "DCAS Workshop".

Helping our members in their career is one of our focuses. We shall have another professional skill training on June 7th, thanks for our PACE Chair, Maura Schreier-Fleming. Three topics have been identified. We'd like to hear your preferences of the topics, so that we can organize the training on the most interesting topic that benefits you most. Please select one of the topics in the survey site http://www.surveymonkey.com/s.asp?u=197271941526

I'd like to remind you that IEEE-USA has a wonderful resources website (http://www.ieeeusa.org/careers/cpg/default.asp) where you can find many helpful articles regarding career development and employment policies. Better still, a number of good articles are free for members. A good example is a 39 pages booklet "Career Planning Guide for IEEE Members" ready for you to download!

Finally, we'd like to hear your suggestions on IEEE Dallas operations. Please feel free to contact me and other section officers.

DALLAS SECTION APRIL 2006 MEETING

Dallas Section IEEE Annual Awards Banquet

This year's Awards Banquet will be held on Saturday April 29th 2006 at the Holiday Inn Select in Richardson, TX.

Their address is: 1655 North Central Expressway, 972-238-1900. The time will be from 6:30 PM - 11:00 PM. This event includes: Dinner, Drinks, Awards, Casino Tables, some great Gifts, and the perfect opportunity to do some Networking.

Early Tickets (Before April 14, 2006) = \$ 10 / person, or \$ 15 / couple.

Late Tickets (After April 14, 2006 and at the door) = \$ 15 / person, or \$25 / couple.

The hotel can only hold 200 people, so please mail your order in today: Gerry Burnham, University of Texas at Dallas, P.O. Box 830688, EC33, Richardson, Texas 75083-0688 burnahm@utdallas.edu

Aerospace And Electronics Systems (AES)

Chair Tim D. Reichard (972) 205-8411

Antennas & Propagation (AP)

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Chair Bob Bishop (903) 482-5320

Industry Application (IA)

Chair Open

Laser & Electro-Optics (LEO)

Chair Duncan MacFarlane (972) 883-2165

Microwave Theory & Techniques (MTT)

Chair Danny Balusek (972) 276-6210

Power Electronics (PELS)

Chair Don Marabell (469) 330-9100 x230

Reliability (RL)

Chair Lon Chase (972) 952-3138

Signal Processing (SP)

Chair Nasser Kehtarnavaz (972) 883-6838

Solid State Circuits (SSC)

Chair Xiaopeng Li (214)480-4175

Aerospace & Electronic Systems

"Transmit Antenna Array Techniques for Wireless Communications"

Date: Wednesday, April 25th, 2006
6:30: Meet & Greet; 7:00pm: program

Place: Holiday Inn Select, 1655 North Central Expressway, Richardson, TX

All our society meetings are free of charge, and open to all interested in attending. Our programs start at 6:30 PM with a social, networking, snack and refreshment period, followed by the program at 7:00 PM. Please mark your calendars and be sure to attend our very informative programs.

Speaker: **Kevin J. Sweeney**, Expert on handling Pressure

Program Summary: In today's world, pressure is an everyday occurrence. Extreme pressure can erode productivity because individuals are not prepared for unexpected situations that may arise. Lt. Col. Sweeney understands pressure having flown combat missions in both Viet Nam and Desert Storm and having been awarded the United States Air Force Distinguished Flying Cross. Using the real-life example of an airplane's team in trouble, Kevin shows the importance of individual development, leadership delegation, and cooperative feedback. Trust in yourself and your teammates can mean the difference between success and failure. Pressure Cooker Confidence™ delivers a concrete process to create the skills and behaviors individuals need to invest in preparation, have a passionate interest in results and foster the intensity required to use pressure to enhance productivity. Through passionate use of the process we can achieve and expect to achieve even under the extreme pressures we all face. We can have Pressure Cooker Confidence™ when we need it.

Kevin Sweeney is a recognized expert and authority on taking the pressures we all face and turning those pressures into calm confidence. Kevin is a retired Lt. Colonel in the Air National Guard. He has been featured in a *Reader's Digest* article titled, "Bring Them Home" and has also appeared on the A&E Channel in a segment titled *Frontline Pilots*. A decorated pilot, he was awarded numerous including the Air Achievement Medal, multiple Air Medals and the United States Air Force Distinguished Flying Cross.

Sweeney is also well educated with two Bachelors degrees and an MBA. He attended undergraduate school on a basketball scholarship where he served as captain of the team and was honored as an all-conference and all-district athlete.

Visit the IEEE AESS Dallas Chapter web site at <http://ewh.ieee.org/r5/dallas/aes>

For information, please contact Tim D. Reichard (972) 344-7512

Tim_D_Reichard@raytheon.com, Boyd Gallatin (903) 457-6689 Boyd_Gallatin@L-3Com.com, or Mark Gober (903) 457-5122 Mark.D.Gober@L-3Com.com

Antennas & Propagation

"Advances in the Design of Electrically Small Antennas"

Date: Tuesday, April 25th, 2006
5:45 pm: Dinner Buffet; 6:30 pm: Program

Place: Holiday Inn Select, 1655 North Central Expressway, Richardson, TX

Speaker: **Dr. Steven R. Best**, MITRE, IEEE AP-S Distinguished Lecturer

Door prize raffle!

For more information, please contact:

Dr. Choon Sae Lee, AP Chairman, 214-768-3257, csl@engr.smu.edu
Anand Lakshmanan, AP Secretary, 469-499-6789, anand.em@gmail.com

Circuits & Systems

"Materials and Processes for Flexible Electronics"

Date: Tuesday, April 11th, 2006
6:30 pm: Refreshments; 7:00 pm: Program

Place: Dallas Texins Activities Center, Conf Room 1

Speaker: **Dr. Bruce Gnade**, University of Texas at Dallas

Please visit our Website listed below for latest updates, abstract of talk and seminar details <http://ewh.ieee.org/soc/cas/dallas/>

IEEE Dallas Section Direction/April 2006

Communication & Vehicular Technology

"Carrier Class Ethernet Service Delivery Migrating SONET to IP & Triple Play Offerings"

Date: Tuesday, April 18th, 2006
Lunch/Chapter business: 11:00 am – 11:50 am
Program: 12:00 - 1:00 pm

Place: Holiday Inn Select, 1655 North Central Expressway, Richardson, TX

Speaker: **Joseph Mocerino** from Fujitsu Networks

Program Summary: This paper will show how a service provider can migrate a purely SONE T-based network to one offering packet services, while maintaining performance, survivability and efficiently processing packet data. Examples will show the differences in bandwidth, fiber and equipment utilization of SONET versus EoS versus RPR over SONET for carrier-class Ethernet and triple play services.

Joseph Mocerino has over twenty years cumulative experience in International and US/Domestic markets for Telecom, Datacom & CATV in the disciplines of Product Management, Market ing, Sales, Engineering and Manufacturing. Fifteen years Product Management & Marketing experience in HFC optics, SONET/SDH/PDH, mesh networking, ATM, T-1/E-1 TDM, and packet network multiplexers. **Mocerino** demonstrated record of conceptualizing and implementing market needs into product and marketing programs resulting in sales creation within new developing markets.

Meeting details for Communication & Vehicular Technology Dallas Chapter can be found on their web site. Visit <http://www.cvt-dallas.org/>

Computer

Remember to visit <http://chapters.computer.org/dallas/> for updates, to download presentations, or view upcoming calendar!

Consultants Network

"How the Technology Assistance Center Can Help You Develop Your Products and Business"

Date: Monday, April 10th, 2006,
Social/Networking/Dinner 6:15 pm
Program 6:45 pm.

Cover: \$5 for IEEE Members, \$15 for non-IEEE Members/Guests (includes light supper buffet)

Place: Holiday Inn Select, 1655 North Central Expressway, Richardson, TX

Speaker: **James E. Berish (MBA)**, Director, Technology Assistance Center – Small Business Development Center (SBDC)

Program Summary: Mr. Berish will discuss how the Technology Assistance Center can help grow local businesses.

Mr. Berish is the key contact for inventors, entrepreneurs and others who want to develop new products and businesses. Through the Technology Assistance Center/SBDC, he assists clients with product development, inventions, technology transfer, SBIR/STTR/ATP, intellectual property, and assistance using commercial, NASA, and Federal Laboratory Information Databases

Berish holds an M.B.A., and a Bachelor's degree in aviation management. He is certified as an FAA commercial pilot, certified in FAA aviation maintenance technology, and has an FCC electronics license. He also holds a U.S. patent.

Contact information: Maura Schreier-FLeming 972 380 0200 or info@bestatselling.com

Consumer Electronics

"Bending the Laws of Time and Place: Multimedia in the Age of Broadband"

Date: Tuesday, April 11th, 2006
Lunch/Chapter business: 11:15 am – 11:45 am
Program: 11:45 am - 12:45 PM

Place: Holiday Inn Select, 1655 North Central Expressway, Richardson, TX

Speaker: **Michael Greeson**, President, The Diffusion Group

For changes of address go to ieeedallas.org

Program Summary: Modern technology is making it possible for consumers to access and consume media content at any time or place. And not just preprogrammed broadcast media, but highly-personalized, preferred content. With accelerated adoption of devices like digital video recorders and robust portable multimedia players, the "laws" of old media are bending to conform with the reality of new media.

Mr. Greeson will combine TDG's latest primary consumer research and industry insights to discuss how these disruptive forces will shape the business and consumer experience of multimedia, as well as provide a roadmap of potential pitfalls and opportunities associated with these changes.

Greeson is the founder and director for The Diffusion Group. He graduated with honors from the University of Chicago with a Master's of Arts in Interdisciplinary Social Science, blending studies in sociology, psychology, social theory, and philosophy. Prior to Chicago, Michael graduated with a Bachelor's of Arts in Philosophy from the University of Central Oklahoma.

There is no membership requirement to attend this meeting.

For additional information, please contact Dr. Baowei Ji at (972) 761-7167
baowei.ji@samsung.com or Sam Broyles at (214) 480-3232 sam.broyles@ti.com

To download presentations, view upcoming calendar, etc. check out our web site at:
<http://www.DallasCES.org>

Electromagnetic Compatibility

"Antenna Behavior and Use"

Date: Tuesday, April 18th, 2006
 Refreshments 6:00 -- Program 7:00 P.M.
 RSVP to Bill Paschetag, bpaschetag@IEEE.org

Place: TBD

Speaker: **Mr. Colin Brench, Principal Member of Technical Staff, EMC Product Design and EMC Modeling, Hewlett-Packard Richardson, Texas**

Program Summary: Measurements made to show compliance to the EMC regulatory limits for radiated emissions require the use of antennas. Unfortunately, there is a disconnect between the ways the antennas are designed, used and calibrated. This is further confused by the international requirements that must be met when both qualifying an EMC test site and the theoretical models which still have their own inaccuracies. Most of the difficulties arise from the size of the antennas, which at lower frequencies are comparable to the test geometry dimensions. When making any measurement it is an essential goal that the measurement device does not alter the parameter being measured. This is very difficult to achieve during EMC testing and so there is an additional source of uncertainty that needs to be evaluated and considered.

This presentation explores the history of measurement techniques, looks at the magnitude of the errors introduced, and shows how through the use of computational techniques this problem is slowly being addressed. To help explain the issues, the behaviors of a number of different antennas are explored in the EMC test environment.

For more information, visit the Dallas IEEE/EMC Chapter Website
<http://www.DallasEMC.org>, or contact Bill Paschetag, bpaschetag@ieee.org

Electron Devices

For program information please contact Zeynep Celik-Butler, (817) 272-1309,
zbutler@uta.edu

Engineering Management

"Engineering Management Lessons from the Telecom Boom and Bust."

Date: Friday, April 14th, 2006
 Lunch/Chapter business: 11:30 AM
 RSVP Bob Bishop, r.bishop@ieee.org

Place: Holiday Inn Select, 1655 North Central Expressway, Richardson, TX

Speaker: **Mr. Morris Westerhold**

Program Summary: The phone companies of yesterday lost their monopoly status as new carriers entered this attractive local market. Profit margins of incumbents are shrinking and competitors are struggling to survive.

The Phone Companies of tomorrow will be those who succeed in creating an attractive value proposition for their customers while generating a positive cash flow. The winners will be those who execute sound business plans based on knowledge of the customer, the regulations, and the technology options. The opportunities are virtually unlimited in this \$200+ billion plus industry, but the challenges and risks are also very large. TPC Consulting can help your company be one of the phone companies of tomorrow.

Mr. Westerhold is the founder of TPC Consulting, previously at Ameritech, AT& T, and Bell Laboratories.

For program information please contact Bob Bishop, 903.482.5320 or r.bishop@ieee.org

Industry Applications

If you are interested in this society please contact Dr. Tim Ozugur at (972) 477-2737 Tim.Ozugur@alcatel.com

Lasers & Electro-Optics

Details for IEEE-LEOS Dallas Chapter seminar series are listed on our website at
<http://www.engr.smu.edu/leos/>

Microwave Theory & Techniques

Program information for the Microwave Theory and Techniques Dallas Chapter can be obtained by e-mailing either Bob Eye (reya@tqtx.com) or Bob Coats (roats@flash.net).

Power Engineering [Fort Worth, TX]

For Program information please contact Julio Chavarria at jchavar1@txued.com, or telephone number 214-743-6681.

Reliability

"Characterizing Terrestrial Radiation Induced Soft Errors in an Advanced Multi-core Digital Signal Processor"

Date: Tuesday, April 18th, 2006, 6:30 P.M.

Place: UTD Engineering and Computer Science Building, Room 3.503, Richardson, TX

Speaker: **Vivain Zhu, Texas Instruments**

Program Summary: As technology scaling reduces dimensions and voltages to provide higher density and lower power functionality, the system sensitivity to radiation-induced soft errors increases. Soft errors, also known as single event upset, on ground level, is caused by alpha particles from packaging material and nuclear reaction product of terrestrial neutron and semiconductor material. Soft error can manifest in unpredictable system behavior, thus represent considerable risk for high reliability applications. This presentation presents an approach to characterize soft error rates (SER) for an advanced 0.13um, multi-core, voice-over-packet digital signal processor (DSP) system in both the accelerated alpha-particle and neutron environment.

All attendees are welcome. Refreshments will be served.
 For Program information please contact please contact Lon Chase (972) 952-3138.

Signal Processing

"Image Enhancement of a Flying Probe Tester "

Date: Wednesday, April 5th, 2006
 Program 11:00 am

Place: UTD Engineering and Computer Science Building South, Room ECSS 2.102

Speaker: **Dr. Mukul Shirvaikar, UT-Tyler**

"Architectures for Symbol Timing Synchronization in Multiple-Input Multiple-Output (MIMO) Communications"

Date: Thursday, April 27th, 2006
 Program 11:00 am

Place: UTD Engineering and Computer Science Building South, Room

ECSS 2.102

Speaker: Professor Michael Rice, Brigham Young University

For abstracts, see

<http://www.utdallas.edu/~kehtar/ieee-sp/schedule.html>

For directions and parking, see

<http://www.utdallas.edu/~kehtar/ieee-sp/directions.html>

Solid State Circuits

"The future of IC technology: nanotechnology at 45nm and beyond."

Date: Monday, April 10th, 2006, 6:30 P.M.

Place: South Campus Auditorium, Texas Instruments Incorporated
12500 TI Boulevard
Dallas, TX 75243-4136

Speaker: Dr. Hans Stork, Senior Vice President and Chief Technology Officer of Texas Instruments

Program Summary: The most advanced CMOS technology in development today can certainly qualify as nanotechnology. Minimum device lengths are ~25nm and minimum line pitches are ~140nm. Challenges for realization include cost effective patterning improvements, dealing with variations and power limitations, and increasingly detailed reliability characterization. Some approaches to extend the life of CMOS include sophisticated resolution enhancements, EUV lithography, 3D device structures, porous interconnect dielectrics, 3D packaging structures, and self regulating power management. The near term future is full of exciting choices to break through perceived red brick walls. The long term future challenges us to go beyond CMOS and deploy new physics in the field of engineering.

Dr. Stork is Senior Vice President, and Chief Technology Officer, of Texas Instruments. As Director of the Silicon Technology Development organization, he is responsible for ensuring that process technology provides a competitive advantage for TIs products.



The Dallas Section of the **Institute of Electrical and Electronic Engineers (IEEE)** for the benefit of its members publishes **Direction** monthly from September through May. Articles and information for publication should be submitted to: Biron Pickens, Editor, 5015 Moss Point Rd., Dallas, TX 75232, Phone (972) 824-8284, Fax (972) 263-6710, Email: drbtimothy@sbcglobal.net. Special announcements must first be submitted to Bob Shapiro, Administrative Chairman, Phone (214) 448-4818, Email: rcshapiro@comcast.net, and will be published on a space-available basis. Deadline for submission of materials is no later than the first of the month prior to the month of publication.

Advertising: **Direction** is distributed to approximately 7,200 members in the Greater Dallas area. Camera-ready copy must be submitted by the first of the month prior to the month of publication to the Editor at the above address.

Invoicing and/or contractual agreements for advertising are administered by Biron Pickens, Editor, and Bob Shapiro, Administrative Chairman. All ad insertions must be cleared through Biron Pickens or Bob Shapiro before being submitted for publication. Advertising rates are as follows:

	Per Insertion	
Full Page \$800.00		Quarter Page \$200.00
Half Page \$400.00		Bus. Card \$120.00

DALLAS SECTION

The Annual IEEE Awards Banquet



Dinner

One free drink followed by Cash Bar

"Casino Night" Entertainment with Raffle Prizes

Saturday, April 29, 2006

The Holiday Inn Select Hotel, Richardson

(1655 N Central Expwy. South of Campbell; Phone (972) 238-1900)

Reception - 6:30 P.M.

Dinner / Awards - 7:00 P.M.

Presenting the Outstanding Achievement and Outstanding Company Awards from the Section and the Outstanding Service Awards from the Societies

Tickets

Before April 14, 2006 -- \$10/person, or \$15/couple
After April 14, 2006 and at the door -- \$15/person, or \$25/couple

To Purchase Tickets Contact:

Gerry Burnham
burnahm@utdallas.edu
Tel:(972)883-2977
Fax:(972)883-2710

2006 DISTINGUISHED SPEAKER SERIES

MICRO & NANO-SYSTEMS

Micro and Nanoengineered Interfaces for Therapeutic Targeting and Delivery

Tejal Desai, Ph.D., Associate Professor of Physiology and Bioengineering
University of California at San Francisco, San Francisco, California

April 14, 2006 1:00 - 2:30 PM Nedderman Hall, Room 105

Materials and Processes for Flexible Electronics

Bruce Gnade, Ph.D., Professor, Chemistry and Electrical Engineering
University of Texas at Dallas, Dallas, Texas

April 18, 2006 2:00 - 3:30 PM Nedderman Hall, Room 105

DMD Pixel Development for Continuous Success of the DLP® Technology

Sue Gong, Ph.D., Member of Group Technical Staff, DMD Superstructure Design/Modeling
Texas Instruments, Plano, Texas

April 25, 2006 2:00 - 3:30 PM Nedderman Hall, Room 105

Neuronal Networks on Microelectrode Arrays: Nanoscaled Biosensor, Research & Assay Platforms

Guenter W. Gross, Ph.D., Regents Professor of Neuroscience, Center for Network Neuroscience
University of North Texas, Denton, Texas

April 28, 2006 1:00 - 2:30 PM Nedderman Hall, Room 100

<http://www-ee.uta.edu/Online/cbutler/MEMSWebpage/SpeakersSpring2006.htm>

