



Dallas Section

Direction

Volume 50, Number 7

March 2007

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From the Chair

by Gerry Burnham

Hello IEEE members,

I would like to again congratulate Dr. Bogdan Straszewski for being selected as the 2007 Dallas Section IEEE Outstanding Award. Bogdan was recognized February 24th at the Engineers Week Gala and is currently a Distinguished Member of the Technical Staff at Texas Instruments.

Let me apologize for jumping the gun on the Chapter training and Networking session. Vice Chair Bob Shapiro is organizing that event and send out notification later as to when the session will occur.

We still have a few open positions that need to be staffed and I would appreciate anyone with some additional bandwidth to contact me. Dr. Raphael Grayfer has agreed to continue serving as the student activity chair for 2007.

Finally, I'd like to thank all our section and chapter officers for their effort to help the IEEE Dallas section and members like you. Please support them in anyway you can. Thank you!



DALLAS SECTION MARCH 2007 MEETING

"To Be Announced"

Date:

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 (972) 238-1900

Speaker: To Be Announced

For more information: http://www.ieeedallas.org

For more information contact: Maura Schreier-Fleming 972 380 0200 or info@bestatselling.com or visit Chapter website at http://ieeedallas.org

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Chair Shekar Rao (214) 480-1756

Laser & Electro-Optics (LEO)

Chair Duncan MacFarlane (972) 883-2165

Microwave Theory & Techniques (MTT)

Chair Robert Eye (972) 994-5818

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)480-4172

Aerospace & Electronic Systems

"Compressive Sampling Techniques for Sub-Nyquist Sampling"

Date: Tuesday, March 27th, 2007
Social/Networking/Refreshments 6:30 pm/ Program 7:00 pm.

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.

Place: Holiday Inn Select, 1655 North Central Expressway, Richardson, TX (972) 238-1900

Speaker: **Dr. Antone Kusmanoff**, Senior Principal Multi-Disciplined Engineer, L-3 Communications Integrated Systems

Program Summary: Partial differential equations (PDEs) arise in analysis of airborne structures, and the projection of natural phenomena such as severe weather and earthquakes. Unfortunately, for many useful problems, there are classes of PDEs where the computational requirements are prohibitively large and enormously time consuming. Because of this, only very small models can be resolved at an engineer's workstation and even then, this method is only acceptable when significant delays can be allowed. For larger problems, or if delays are unacceptable, the PDE solution must be obtained by submitting the work to a queue for a remote cluster of processors. However, for the largest and most complex problems, even the shortest run time on a cluster results in processing times of many days or weeks. This presentation describes a High Performance Computing (HPC) desktop design that could be used to solve the highest time demanding types of PDE problems by fusing together; 1) an appropriate group of multiple reconfigurable networked computing nodes joined with 2) adapted parallel processing algorithms, where both the hardware and the algorithms are synthesized against 3) a particular PDE problem class of interest

Dr. Kusmanoff is a Senior Principal Multi-Disciplined Engineer with L-3 Communications/IS at Greenville, TX responsible for providing support to both Internal and Contracted High Performance Computing (HPC) Research and Development efforts. Dr. Kusmanoff began his engineering career in the USAF as an Information Systems Officer, retiring as a Lt. Col. In 1987 and obtained his Ph.D. degree in Electrical Engineering from Oklahoma State University in Stillwater, OK in 1989. He has worked as a Senior Research Engineer at Southwest Research Institute in San Antonio, applying advanced communication research techniques against systems such as the Space Station Freedom and Houston's NASA command facility. He has also worked for several smaller firms including having the opportunity of running his own business before joining L-3 Communications at Greenville, Texas in 1997.

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, Jared Ellington j.ellington@ieee.org, or Mark Gober (903) 457-5122 Mark.D.Gober@L-3Com.com

Antennas & Propagation

For more information, please contact:
Dr. Choon Sae Lee, AP Chairman, 214-768-3257, cslee@enr.smu.edu
Anand Lakshmanan, AP Secretary, 469-499-6789, anand.em@gmail.com

Circuits & Systems

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

Communication & Vehicular Technology

"Service Providers' Mobile Future: How Emerging Technologies Link All Networks & All Devices"

Date: Tuesday, March 20th, 2007
Luncheon 11:00 a.m. / Program 12:00 p.m.

Cover: \$5 for IEEE Members, \$10 for Non-members

Place: Holiday Inn Select, 1655 North Central Expressway, Richardson, TX (972) 238-1900

Speaker: **Kathy McEwen**, Senior Director of Marketing and Product Management Mavenir Systems

Program Summary: The driving forces behind the acceleration of next generation service delivery are clear. Consumers continue to demand innovation and flexibility in mobile communications. Enterprises want to implement technology with the goal of cost savings and increased employee productivity. To enable revenue growth and increase consumer stickiness, service providers must offer new technologies that differentiate their services. At the same time, each new generation links new access with new core networks. The author will discuss emerging technology solutions that transcend the barriers dividing core networks so that service providers can offer communications and streaming media services where and how we want them, when we need them without costly infrastructure investments.

Kathy McEwen, Senior Director Marketing and Product Management, Mavenir Systems, has 15 years communications industry experience. In this role Kathy is responsible for establishing customer requirements and creating propositions to meet them. She has participated in a number of engagements and enabled carriers to implement trials as early realizations of converged service offerings. Kathy is also responsible for all aspects of product and corporate marketing for Mavenir Systems.

Prior to joining Mavenir Systems, Kathy led marketing at Spatial Wireless helping to establish the company as the globally recognized leader in distributed mobile switching. Kathy came to Spatial Wireless from Nortel Networks, where she held a variety of positions in Sales, Product Management and R&D. Her experience spans the wireless and wireline switching portfolio, having led sales, product management and strategic positioning for wireless intelligent networking, location services and MCI International programs. She expanded market share, grew revenue and company recognition with many new product solutions and business strategies. Kathy holds a Bachelors of Computer Science from the engineering school at the University of New Brunswick, Canada.

For further information contact Steve Simmons at: sms_1961@yahoo.com.

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

"TBA"

Date: 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 (972) 238-1900

Speaker: To Be Announced

For more information: <http://www.ieeedallas.org>

For more information contact: Maura Schreier-FLeming 972 380 0200 or info@bestatselling.com or visit Chapter website at <http://ieeedallas.org>

Consumer Electronics

Please visit Ad placement on page 5.

For additional information, please contact Dr. Baowei Ji at (972) 761-7167 baowei.ji@samsung.com, LaRell Nielsen larell@airmail.net, 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

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

"Joint Life Member and Engineering Management Luncheon"

Date: Friday, March 9th, 2007

Luncheon: Program 11:30 a.m.

Please RSVP to Bob Bishop at r.bishop@ieee.org

Place: Holiday Inn Select, 1655 N. Central Expressway, Richardson, TX (972) 238-1900

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

Industry Applications

For further info contact Dallas IEEE Section Activities Chair Will Lumpkins at (214) 543-0858.

Please send RSVP to xillia@ieee.org

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

"Global Stability Analysis and Stabilization of Power Amplifiers"

Date: Tuesday, March 27th, 2007

Luncheon: 11:00 a.m. / Program 11:45 a.m. - 1:15 p.m.
(Please note the earlier starting time)

\$5 for IEEE members
\$10 for non-members
No charge for Student and Life Members

Please RSVP to Bob Eye at reya@tqs.com by Tuesday, March 20th, 2007.

Place: Holiday Inn Select, 1655 N. Central Expressway, Richardson, TX (972) 238-1900

Speaker: Dr. Almudena Suárez, Univ. of Cantabria, Communications Engineering Dept.

Program Summary: Power amplifiers often exhibit instabilities giving rise to frequency division by two or oscillations at incommensurate frequencies. These phenomena, observed from a certain level of input power, cannot be detected through a small-signal stability analysis of the circuit. Instead, a large-signal stability analysis must be performed. Other behaviors, like hysteresis and chaotic solutions, can also be obtained when the input power is varied. The qualitative changes in the output-power spectrum are due to bifurcations or qualitative stability changes in the circuit solution or in the number of solutions when the parameter is varied. The talk introduces the local and global stability concepts and the analysis techniques, based on harmonic balance. The first objective is to allow a good comprehension of the different phenomena. The second objective is to provide practical simulation tools for an efficient prediction and elimination of the undesired behavior. Different approaches for the local-stability analysis of nonlinear regimes will be presented, with emphasis on the pole-zero identification. Then, techniques will be shown for the detection of the most common types of bifurcations in power amplifiers. The final goal will be the stabilization of the circuit and the design corrections in order to suppress the undesired phenomena will also be presented.

Almudena Suárez received the Electronic Physics and the Ph.D. degrees from the University of Cantabria, Santander, Spain, in 1987 and 1992, respectively, and the Ph.D. degree in electronics from the University of Limoges, Limoges, France, in 1993. In 1987, she joined the electronics department, University of Cantabria, where she was involved with nonlinear simulation. From May 1990 to December 1992, she was on leave with the Institute de Recherche en Communications Optiques et Microondes (IRCOM), University of Limoges. From 1993, she has been an Associate Professor (permanent since June 1995) at the University of Cantabria, and a member of its Communications Engineering

Department. She has co-authored the book "Stability Analysis of Microwave Circuits," published by Artech House, and has contributed with two articles to the "Encyclopedia of RF and Microwave Engineering," edited by Kai Chang. She has published more than 36 papers in international journals, with 31 in IEEE journals. She belongs to the technical committee of the IEEE International Microwave Symposium. She is a reviewer of four IEEE journals. She has given invited talks in different conferences and institutions in Germany, France, and the US. She has been the leading researcher in four Spanish R&D projects and has taken part in a number of Spanish and European projects in collaboration with industries. Her areas of interest include the nonlinear design of microwave circuits and, specially, the stability and phase-noise analysis and the investigation of chaotic regimes.

For additional information contact Bob Eye at reya@tqs.com.

Power Engineering [Fort Worth, TX]

For Program Information contact Julio Chavarria through outlook, to e-mail address jchavar1@txued.com, or telephone number 214-743-6681.

Reliability

"Lessons Learned for Guidance in Implementing Commercial Off The Shelf (COTS) Equipment in Rugged Applications"

Date: Tuesday, March 20th, 2007
Program 6:30 p.m.

Place: UTD (Richardson, TX)
Waterview Science and Technology Center (WSTC Bldg),
Room CSEPI

Speaker: Lon Chase, Raytheon

Program Summary: The use of COTS equipment (i.e. circuit cards, processor cards, Inertial Measurement Units, Global Positioning System cards, power supplies, etc) is an attractive approach to system development even in severe environment applications. Catalog items promise shorter development cycles and lower cost. However, the system designer, inexperienced with the use of COTS equipment, may be unaware of the differences between using COTS and developing designs internally. There are hidden cost and schedule issues that could create problems throughout the system lifecycle and negate the benefit from COTS use.

This presentation describes how guidelines and tools were developed using lessons learned from real applications. An overview of the lessons learned, the process used to generate tools, and the tools themselves are described. This information and tools will facilitate the program engineer and manager to be better prepared for planning and decision making to counteract the risks of COTS equipment and realize their potential benefit.

Lon Chase is a principle reliability engineer in the Raytheon Tactical Radar unit at McKinney, Texas. He has 18 years experience in military radar applications and in reliability application of new circuit card and component technology. Lon has a Bachelor of Science degree in Electrical Engineering from the US Naval Academy and a Master of Science in Reliability from University of Maryland. He is currently active in the IEEE Reliability Society on the admin committee, aerospace & military technical committee; he is the newsletter editor, and past chair for the Dallas society chapter.

For a map to the meeting click <http://www.utdallas.edu/campusmap.html> (refer to "WSTC" on the map.)

For more information please contact Milton Tam (972) 344-5230

Signal Processing

For meetings schedule, please see <http://www.utdallas.edu/~kehtar/ieee-sp>

Solid State Circuits

The new executive committee for SSCS Dallas society are:

Chair: Gonggui Xu, TAOS
Vice Chair: Tan Du, ADI
Treasurer: Keliu Shu, TI
Secretary: Sachit, TI
Technical chair: Ping Gui, SMU
Meeting Chair: Weibiao Zhang, TI

For Program information please contact Chapter Chair.

Mind Tease

Problem:

Can you arrange four 9s so they equal 100? You may use any math function such as addition, subtraction, multiplication, division, etc.

Answer is listed at the bottom of page 6!

ANNOUNCEMENTS



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 Gerry Burnham, Administrative Chairman. All ad insertions must be cleared through Biron Pickens or Dr. Gerry Burnham before being submitted for publication. Advertising rates are as follows:

	<u>Per Insertion</u>	
Full Page	\$800.00	Quarter Page \$200.00
Half Page	\$400.00	Bus. Card \$120.00

ISCE 2007

June 20-23, 2007
Dallas, Texas, USA



In cooperation with the IEEE Consumer Electronics Society, IEEE Dallas Section, and IEEE Consumer Electronics Dallas Chapter

Benefits of Participating:

Hands-on tutorials
Educational/Learning
Networking Opportunities
Keynote presentations from industry leaders
Viewing Live Demonstrations in the Exhibit Areas
Meet exhibitors that can assist with your next project
Network with professors and professionals from around the world
Learn about the latest advancements in the field of consumer electronics
Get published! (Accepted papers will be published in the electronic & paper conference proceedings with an ISBN.)



Topics of Interest:

Digital Rights Management & Security, Broadband Wireless Access, Sensor Networks, Wireless Security, Dependable Networks, Channel Access, Novel Network Protocols, 3G/4G Systems, Internetworking, Automotive, Home Electronics & Communication, Mobile Computing, Internet Applications, Multimedia Video Technology, Audio Technology, RF & Wireless, User and Human Interfaces, Digital Imaging Technologies, Gaming, Home Networking, Home Theater/Video, Wireless Technologies and Emerging Technologies

Expected Attendance:

300+ attendees including students, professors, and professionals from the local and international communities of consumer electronics developers.

Program:

This Symposium will host four parallel technical tracks and one afternoon of tutorials focused on technical issues and developments for the topics listed above. Currently, The IEEE is accepting submissions to participate at this event..

Exhibitors:

For information on exhibiting at this event, please contact info@isce2007.dallasces.org. This year, we expect 45-60 exhibitors from corporate technology companies. All the exhibitors should be related to consumer electronics systems development and characterization.

Conference Fees:

Early Registration (before April 2nd):

Non-Member \$450 | IEEE Member \$420 | Student \$340

Late Registration (after April 2nd):

Non-Member \$500 | IEEE Member \$470 | Student \$390

Website:

www.isce2007.dallasces.org

Questions?

Contact info@isce2007.dallasces.org

Answer to Mind Teaser:

$99 \frac{9}{9}$