



Dallas Section

Direction

Volume 50, Number 6

February 2007

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burnham@utdallas.edu

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From the Chair

by Gerry Burnham

Hello IEEE members,

We have started a new year. Besides 2006/2007 section officer transitions, our officers have already been working on the strategic plan we laid for IEEE Dallas in 2006. We still have a few open positions that need to be staffed and I would appreciate anyone with some additional bandwidth to contact me.

This year we will step up effort to engage and help professional activities and raise IEEE's visibility in Dallas.

This month we plan to hold a Chapter training and Networking session on February 24th at a location to be determined. We will also have a Senior Member drive later this spring.

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 FEBRUARY 2007 MEETING

To Be Announced

Date: Tuesday, February 13th, 2007 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

Aerospace And Electronics Systems (AES)

Chair Tim Reichard (972) 344-7512

Antennas & Propagation (AP)

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Chair Don Shaver (214) 480-4349

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Electron Devices (ED)

Chair Zeynep Celik-Butler (817) 272-1309

Engineering Management (EM)

Chair Bob Bishop (903) 482-5320

Engineering in Medicine and Biology (EMBS)

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

## IEEE Senior Membership Upgrade Event

IEEE Dallas section will host a senior membership upgrade on Saturday April 14<sup>th</sup> from 10-12AM at UTD engineering building. We would like local area senior members and fellows to attend this event to help as references and explain the procedures that applicant members have questions with.

## Aerospace & Electronic Systems

### **"Compressive Sampling Techniques for Sub-Nyquist Sampling"**

**Date:** Tuesday, February 27<sup>th</sup>, 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:** Frank Boyle, Senior Principal Multi-disciplined Engineer, L-3 Communications Integrated Systems

**Program Summary:** In many applications involving radar, electronic warfare, and/or communications, a broadband electromagnetic environment must be measured and digitized, forcing the conversion process to be implemented extremely rapidly. Often this conversion must also be extremely precise and accurate, so that the resulting digital data can be reliably and efficiently mined for weak signals of interest embedded in a strong RF background. Taken together, these requirements severely stress current ADC technology. Shannon's representation exploits only minimal prior knowledge about such RF environments, namely the bandwidth; consequently, standard digitization often measures much more data than is actually useful." [DARPA BAA05-35] In this talk, we examine techniques such as Compressive Sampling to reduce the ADC stress and improve receiver performance.

**Frank Boyle** received a BS in Mechanical Engineering from Texas A&M University in 1980 and a PhD in Physics from the University of Texas at Austin in 1994. Prior to starting doctoral studies, he was an officer in the U.S. Air Force, where he served as a B-52 pilot and participated in squadron-level flight testing of GPS navigation and the Air-Launched Cruise Missile (ALCM) systems. After receiving his doctorate, he was an Engineering Scientist at Applied Research Laboratories, the University of Texas at Austin, where he participated in modeling, simulation and experiment in underwater acoustics. Dr. Boyle is now an engineer at L-3 Communications, Integrated Systems, and is exploring compressive sensing and signal classification. Areas of expertise include linear and non-linear acoustic penetration and scattering of the ocean floor, underwater acoustic array design, acoustic and electromagnetic signal and image processing, data compression, and sampling theory.

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](mailto:Tim_D_Reichard@raytheon.com), Jared Ellington [j.ellington@ieee.org](mailto:j.ellington@ieee.org), or Mark Gober (903) 457-5122 [Mark.D.Gober@L-3Com.com](mailto:Mark.D.Gober@L-3Com.com)

## Antennas & Propagation

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

### **" WiMAX Market Realities, a Global View with North American Focus"**

IEEE Dallas Section Direction/February 2007

**Date:** Tuesday, February 20<sup>th</sup>, 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:** Jim Orr – Principal Network Architect, Broadband Wireless, Fujitsu

**Program Summary:** WiMAX technology has been the epitome of hyped technology over the last several years, some of the hype is deserved and some is not. WiMAX is at a state where we can look past the hype and derive a good understanding of where, when and in what form the technology will be deployed. Sprint Nextel has garnered much of the press due to their strong embrace of WiMAX as their version of 4G, but their activity all over the globe that indicates that WiMAX will pull in the critical mass to become a strong world wide solution.

The author will discuss the current state of WiMAX around the world with specific focus on the adoption of WiMAX here in our home market.

For further information contact Steve Simmons at: [sms\\_1961@yahoo.com](mailto: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:** Monday, February 12<sup>th</sup>, 2007  
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.ieeedallascn.org>

For more information contact: Maura Schreier-FLeming 972 380 0200 or [info@bestatselling.com](mailto:info@bestatselling.com) or visit Chapter website at <http://ieeedallascn.org>

## Consumer Electronics

Please visit Ad placement on page 4.

For additional information, please contact Dr. Baowei Ji at (972) 761-7167  
[baowei.ji@samsung.com](mailto:baowei.ji@samsung.com), LaRell Nielsen [larell@airmail.net](mailto:larell@airmail.net), or Sam Broyles at (214) 480-3232 [sam.broyles@ti.com](mailto: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](mailto:bpaschetag@ieee.org)

## Electron Devices

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

## Engineering Management

For program information and to RSVP, please contact Bob Bishop, 903.482.5320 or [r.bishop@ieee.org](mailto:r.bishop@ieee.org)

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**Industry Applications**

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For further info contact Dallas IEEE Section Activities Chair Will Lumpkins at  
(214) 543-0858.  
Please send RSVP to [xillia@ieee.org](mailto:xillia@ieee.org)

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**Lasers & Electro-Optics**

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

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**Microwave Theory & Techniques**

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***"International Regulatory Issues and  
Changes influencing RFID Specifications,  
Standards and System Development"***

**Date:** Tuesday, February 27<sup>th</sup>, 2007

**Luncheon:** 11:30 a.m. / Program 12:00 noon - 1:00 p.m.

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

Please RSVP to Bob Eye at [reve@tqs.com](mailto:reve@tqs.com) by Thursday, February 22<sup>nd</sup>, 2007.

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

**Speaker:** Steve Lazar, Texas Instruments

**Program Summary:** The influence of international regulatory requirements play a significant role in the development of RFID standards and specifications. This is particularly true for the UHF Gen 2 specification for "tagging" retail supply chain products. The presentation will address the development of the UHF Gen 2 specification, the establishment of the ISO specification based upon the EPC specification and the ongoing work to harmonize the world wide regulatory environment to allow the movement of UHF tagged material among the various ITU regions. Also described will be how the Gen 2 specification addresses the spectral requirement and "dense reader mode" operation.

**Steve Lazar** works at Texas Instruments in RFID Systems Engineering developing RFID system architectures and standards. He is an voting member of ISO, ETSI, AIM and EPC involved in the development of International RFID Specifications, Standards and Regulations and is project editor for the ISO18000-2 standard. Currently he is working on the development of the next generation of EPC specifications for item level tagging. He is a member of the IEEE.

For additional information contact Chapter Vice Chair Larry Zhang at (972) 948-4980.

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**Power Engineering [Fort Worth, TX]**

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***" Renewable Energy Update "***

**Date:** Tuesday, February 20<sup>th</sup>, 2007

Luncheon 11:30 a.m. / Program 12:00 p.m.

**Cover:** \$17 with RSVP, \$20 without RSVP

**Place:** The Petroleum Club of Fort Worth  
777 N. Main Street (39th floor)  
Fort Worth, Texas

**Speaker:** Henry Durrwachter, P.E. TXU Wholesale

**Program Summary:** Texas recently passed a revised Renewable Portfolio Standard (RPS) that will increase the amount of renewable energy produced in this State. In addition, the new legislation also mandates the Public Utility Commission of Texas (PUCT) to designate "Competitive Renewable Energy Zones" or CREZs to facilitate the increased RPS requirements. Mr. Durrwachter will discuss the latest progress in meeting the new mandate and the new PUCT rules related to CREZs. He will also review the results of a recent study performed by ERCOT to evaluate potential CREZs.

**Henry Durrwachter, P.E.**, has a BSEE degree from the University of Texas at Arlington and is a licensed Professional Engineer in the State of Texas. He has worked for TXU in both staff and management roles for over 34 years in engineering, regulatory,

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customer service, and resource planning. His is currently Senior Project Manager at TXU Wholesale, working on development of appropriate market rules for the competitive Texas electricity market. He is a Senior Member of the Institute of Electrical and Electronic Engineers (IEEE) and currently serves on the Board of Directors of the Texas Renewable Energy Industries Association (TREIA), the Dallas Electric Club and as President of the Board of Directors of the Utility Wind Integration Group (UWIG).

Please RSVP by noon on Monday, February 19, 2007 to Julio Chavarria through outlook, to e-mail address [jchavar1@txued.com](mailto:jchavar1@txued.com), or telephone number 214-743-6681.

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**Reliability**

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For Program information please contact please contact Lon Chase (972) 952-3138.

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**Signal Processing**

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

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**Solid State Circuits**

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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.

**Problem:**

There are 20 people in an empty, square room. Each person has full sight of the entire room and everyone in it without turning his head or body, or moving in any way (other than the eyes). Where can you place an apple so that all but one person can see it?

*Answer is listed at the bottom of page 5!*

# ANNOUNCEMENTS

## IEEE Senior Membership Upgrade Event

IEEE Dallas section will host a senior membership upgrade on Saturday April 14<sup>th</sup> from 10-12AM at UTD engineering building. We would like local area senior members and fellows to attend this event to help as references and explain the procedures that applicant members have questions with.

# 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](mailto: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](http://www.isce2007.dallasces.org)

## Questions?

Contact [info@isce2007.dallasces.org](mailto:info@isce2007.dallasces.org)



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](mailto:drbtimothy@sbcglobal.net). Special announcements must first be submitted to Bob Shapiro, Administrative Chairman, Phone (214) 448-4818, Email: [rcshapiro@comcast.net](mailto: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:

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

*Answer to Mind Teaser:*  
Place the apple on one person's head...