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IEEE Direction Dallas Section

May 2008

Volume 51, Number 9

From the Chair


By Robert Shapiro

Hello Colleagues,

In April your IEEE Dallas ExCom attended the IEEE Region 5 yearly meeting in Kansas City, Mo. and the IEEE USA yearly conference in Indianapolis, Indiana.

The IEEE Region 5 meeting and conference had student competitions and networking and a technical conference and the Region 5 general meeting. Congratulations to UTD who won an award. The IEEE Ft-Worth Section has put a bid for the annual meeting in 2010 and the IEEE Dallas Section officers present at the meeting offered to support the event. If the event is awarded to the IEEE Ft-Worth Section then they have selected the Arlington area as the meeting place. IEEE membership in Dallas is up and we are the largest Section in Region 5 and one of the largest in the USA.

The IEEE USA yearly conference was held last week. We discussed programs that help Electrical, Electronics, and Computer Engineers develop professionally and policies in our government that effect our related professions. IEEE USA has a lot to offer and I suggest that you check their web page for current news and events.



In April we had an ExCom meeting (actually on May 1) at the Hyatt Richardson at the site of our 2008 Awards banquet. As soon as possible we will have the minutes posted on our web site for all of the 2008 ExCom meetings.

This Saturday, May 3rd, we are planning our Annual Awards Banquet. We are expecting a great event and we are locating this year at the Hyatt Richardson at Campbell and I-75 which is recently renovated and a 5-star hotel. [Please RSVP](#) before Saturday and please enjoy.

We are planning a Senior Member Upgrade and Officer Training Event in May or June and will have another session in the fall. In 2007 we elevated almost 100 members to Senior level.

Best regards,

Bob Shapiro
 IEEE Dallas Section
 2008 General Chair

Joint meeting between IEEE Dallas Section and IEEE Consultants network

Topic: Network Your Way to Consulting Success

Date: Monday, May 12, 2008
Time: Social/Networking/Dinner 6:15 pm, Program 6:45 p.m.

Location: Holiday Inn Select, 1655 North Central Expressway, Richardson, TX (south of Campbell Road, west side of Central)

Speaker: Marc Freedman, Founder and Executive Director DallasBlue.com

Cover: \$5 for IEEE Members, \$15 for non-IEEE Members/Guests (includes light supper buffet) IEEE members who RSVP may bring a guest at no additional charge.



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Dallas Section

Chapter Meetings/Events

Antennas and Propagation (AP)

Topic: Design Challenges and Unusual Applications for PCB Based Antennas

Date: Wednesday April 30, 2008

Time: Lunch Buffet @ 11:30 am, Program 12:00 Noon

Location: Holiday Inn Select
1655 N. Central Expressway,
Richardson, TX, 75080
([Directions](#))

Speaker: Kent Britain

Cover: Admission and lunch are free.

RSVP: Please RSVP to Ken Tallent at meeting_rsvp@ieeedallas-aps.org

Abstract:

Kent will discuss some of the more unusual applications and design challenges for PCB based antennas.

Speaker Biography:

Kent Britain has developed over 600 PCB based antennas for a large variety of applications.

For more information, please contact:
Ken Tallent, 972-952-3702, meeting_rsvp@ieeedallas-aps.org

Consultants Network (CN)

Topic: Network Your Way to Consulting Success

Date: Monday, May 12, 2008

Time: Social/Networking/Dinner 6:15 pm, Program 6:45 p.m.

Location: Holiday Inn Select, 1655 North Central Expressway,
Richardson, TX
(south of Campbell Road, west side of Central)

Speaker: Marc Freedman, Founder and Executive Director Dallas-Blue.com

Cover: \$5 for IEEE Members, \$15 for non-IEEE Members/Guests (includes light supper buffet) IEEE members who RSVP may bring a guest at no additional charge.

Abstract:

Marc will discuss his unique ideas on using technology and the various social networking sites so you can promote yourself and your career. Consultant success is not due to mass marketing or hard selling, but based on who you know and what you do. It's the perfect environment for business networking. In-person and online networking should be a critical part of your Consulting business toolkit. Nurture and manage your networking to:

- > Build personal relationships
- > Grow professional contacts
- > Prospect for new business
- > Market your skills
- > Attract incoming business
- > Find business partners.

Speaker Bio:

Marc Freedman is number three in the world with over 20,000 LinkedIn

connections. He is the founder of the MyLinkWiki LinkedIn information and help site, as well as top LinkedIn member and group directories at MyLink500 and MyLinkGroups. Access these and other LinkedIn resources through MyLinkFamily.

Marc has spoken on networking and LinkedIn to thousands of people at national conferences, seminars, and workshops. You can hear him regularly and call in to his broadcast show at LinkedIn Live: Who's Your Daddy.

Marc is an entrepreneur. He is founder and CEO of RazorPop, a digital media technology firm and is starting other ventures. He advises equity investors and companies seeking investment and has been an executive at both Fortune 500 companies like AT&T and Verizon and funded and bootstrap startups.

He is a visionary, national authority, and consultant on digital media and technology, including ecommerce, social networks, entertainment, and marketing

Marc is an activist for consumer rights. He founded the consumer watchdog site DiaRIAA and raised money for the EFF and other non-profits. He has presented to and consulted with the U.S. Senate, FBI, and FTC. He works with international, state, and local law enforcement in the area of Internet safety and child protection.

Marc holds an MBA from the Yale University School of Management and BS in computer science from the Massachusetts Institute of Technology.

Consumer Electronics (CE)

Topic: Unsolved Problems in Digital Game Development

Date: Tuesday, May 13th, 2008

Time: Lunch/Chapter business: 11:15 AM - 11:45 P.M.
Program: 11:45 - 12:45 P.M.

Location: Holiday Inn Select, Richardson
1655 N. Central Expressway (US 75),
(Southbound frontage road, south of Campbell)
Richardson, TX 75080

Speaker: Jeff Wofford, The Guildhall at Southern Methodist University

Cover: Buffet lunch: \$5.00 for IEEE members and \$10.00 for non-members

DOOR PRIZES

Abstract:

Over the past decade, innovations in hardware-accelerated graphics processing has enabled game developers to render nearly photorealistic visuals. Recently, physics acceleration hardware has enabled highly realistic dynamic simulations. The result of these innovations is a crop of games such as Unreal Tournament 3, Crysis, Halo 3, and Brothers in Arms: Hell's Highway that appear increasingly lifelike. Yet these advances expose other areas of game technology that remain relatively primitive. Character animation continues to be a challenging area, because humans are good at discerning unrealistic movement, and advanced features such as inverse kinematics and interaction between characters are difficult to make believable. Game networking of physical objects continues to be difficult because of the large number of objects

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Chapter Meetings/Events

and their high degree of interactivity. Artificial intelligence in games continues to prove challenging, and no dominant solution has come to the fore. Jeff Wofford will outline the biggest challenges facing digital game development.

Speaker Biography:

Jeff Wofford began his game industry career as a programmer at Origin Systems. While there, he worked on the legendary Ultima series and the innovative Ultima Online. His eleven-year career in game development brought him into lead programmer, project manager, and game director positions for several major developers. His most recent major release was *Brothers in Arms: Road to Hill 30* for Gearbox Software and Ubisoft. He now lectures in Software Development at The Guildhall at Southern Methodist University. He holds a BA in computer science from the University of North Texas.

For additional information, please contact Sue Hui at (214)567-5017, shui@ti.com

Or visit our website: <http://www.DallasCES.org>

Electromagnetic Compatibility (EMC)

Topic: Real-Time Spectrum Analysis for EMC and Signal Integrity Troubleshooting.

Date: Tuesday May 20, 2008

Time: 6:00 PM Program 7:00 PM

Location: Tektronix; 1500 N. Greenville Ave.; Richardson, TX 75081
Conference Room B (directions at bottom of this page)

Speaker: Bill Byrom, RF Engineer Tektronix;
Hosted by Bill & Tektronix

RSVP: To Joe Stanfield, joe.stanfield@ieee.org

Abstract:

How is a real-time spectrum analyzer different from a swept analyzer? Using Digital Phosphor hardware analysis for improving throughput by a factor of a thousand for many spectrum analyzer applications.

Advanced spectrum analyzer triggering techniques, including frequency mask trigger.

Automated capture of transient RF events to memory and disk drives.

Measurements on spread spectrum clocks.

Faster measurements of narrowband signals in wide spans.

Detector types and display types.

Time domain measurements.

Improved real-time audio monitoring of EMC events, including capturing and replaying demodulated audio.

Data collection and documentation.

Speaker Biography:

Bill Byrom is a Tektronix RF Application Engineer. He has been an Applications Engineer in Dallas with Tektronix for 20 years, working with oscilloscopes, arbitrary waveform generators, and various RF test equipment. He supports both commercial and government customers in the South Central US. He will give a presentation on "Real-Time Spectrum Analysis for EMC and Signal Integrity Troubleshooting".

For additional program information, refer to the Dallas EMC Chapter Website, <http://www.DallasEMC.org>

Directions to Tektronix: NE corner of Greenville Ave at Collins Rd.

Enter from Greenville Ave or Alma Rd and park in front of building (north side).

Northbound Hwy 75: Take Collins Rd exit, cross DART tracks and immediately turn left at traffic light onto Greenville, then take first driveway into parking lot.

Southbound Hwy 75: Take Campbell Rd exit, drive west on Campbell to Collins Rd, turn left on Collins and drive over Hwy 75 to first light at Alma Rd. Turn left onto Alma and then take first left into parking lot.

[Google Map Directions:](#)

Circuits and Systems (CAS)

Topic: Tera Hertz RFCMOS circuits

Date: Wednesday, May 21, 2008

Time: 6:30pm: Pizza & Drinks; 7:00pm: Presentation

Location: Dallas Texans Activities Center, Conf Room 1
(North end of Texas Instruments expressway site, 13900 N Central Expwy.; Site entrance on north-bound access road, between Midpark Rd. & Spring Valley Rd.)

Speaker: Eunyong Seok and Daquan Huang
Texas Instruments, Dallas, TX.

410 GHz Push-push Oscillator:

Abstract:

A 410 GHz push-push oscillator with an on-chip patch antenna fabricated using low leakage transistors of a 45-nm CMOS process with 6 metal layers is demonstrated. The 410-GHz operating frequency is the highest among the circuits fabricated in mainstream silicon technologies, and suggests the possibility of CMOS THz systems.

Speaker Bio:

Eunyong Seok was born in South Korea on October 7, 1973. He received the B.S. and M.S. degrees in electrical and computer engineering from Yeungnam University, Gyeongsan-si, South Korea, in 1999 and 2001 respectively. He is currently pursuing the Ph.D. degree in electrical and computer engineering at the University of Florida, Gainesville. His research interests are in the analysis and design of RF and THz circuits in CMOS.

324 GHz Frequency Generator:

Abstract:

A 324GHz frequency generator is realized in 90nm CMOS based on linear superimposition of phase shifted fundamental signals at 81GHz. The technique minimizes the fundamental, second and third harmonics and results in a high fundamental-to-fourth harmonic signal conversion efficiency of 17% or -15.4dB. The prototype produces a calibrated output of -46dBm when biased at 1V with 12mA current.

Speaker Bio:

Daquan Huang (M'2003, SM'2006) received the B.S. and the Engineering Degree in electronics engineering from Zhejiang University, China in 1982 and 1985 respectively.

He was a professor at the department of information and electronics engineering of Zhejiang University from 1993 to 2002, where he served as the vice chair of the department. During 2002 to 2007, Daquan Huang joined UCLA as a research faculty, where he focused on CMOS MMIC/RFIC designs and developed a 60GHz transceiver in 90nm CMOS as the applications of his inventions of the origami circuit topology for low power operation and the on-chip tunable artificial dielectrics for ultra wideband reconfigurable systems. Daquan Huang joined Texas Instruments Inc. in October 2007, focusing on the advanced CMOS RFICs for the next generation of wireless communica-

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tions systems.

Daquan Huang serves as IEEE journal reviewer and published over 50 journal and conference papers and holds 9 US and 4 international patent disclosures.

Microwave Theory and Techniques (MTT)

Topic: RF/Microwave Education and Research at the University of Texas at Dallas

Date: Tuesday, May 27, 2008

Time: Lunch 11:30 AM / Program 12:00 noon

Location: Shuiwah Chinese Buffet
400 N Greenville Ave #11, Richardson, TX 75081
(972) 907-8868
Google Maps Directions:

Speaker: Dr. Randall E. Lehman

Cover: Mandatory \$5 (\$10 for non-IEEE members) includes admission and buffet. No charge for Student and Life Members.

RSVP: Please RSVP by noon, May 23rd, so we can submit a headcount to the restaurant.

Abstract:

The University of Texas at Dallas, located in the heart of the Dallas Telecom Corridor, has been a center for graduate research since its inception in 1961 as the Graduate Research Center of the Southwest. Founded by the Texas Instruments pioneers Erik Jonsson, Eugene McDermott and Cecil Green, UTD has grown into a university now with an enrollment over 14,000 students. In addition to the wide array of degree offerings, UTD offers a world-class engineering environment, both for educational opportunities as well as advanced research. This talk will provide an overview of UTD's School of Engineering and Computer Science, with special emphasis on the new graduate program concentration in RF and microwaves. Areas of research include RF integrated circuits, passive circuit design and measurements, and antennas. Besides the opportunities for individuals to earn their master and doctorate degrees in an RF related field, this new research also affords local industry the opportunity to partner with UTD professors and graduate students in projects that may be of mutual interest.

Speaker Bio:

Randall E. Lehmann is a Senior Lecturer in Electrical Engineering at the University of Texas at Dallas, specializing in the RF and microwave area. He holds BS and MS degrees in electrical engineering from the University of Illinois-Urbana/Champaign and a PhD in electrical engineering from Southern Methodist University in Dallas. He has more than 25 years of industrial experience with companies such as Texas Instruments, Raytheon Company and TriQuint Semiconductor. He is a Senior Member of IEEE and a registered Professional Engineer in the State of Texas.

Sponsorship: This announcement is brought to you by Groover & Associates patent attorneys. "Respect for Technology. Respect for Technologists" <http://technopatents.com>
Phone 1-972-980-5838

More information at the MTT website:
<http://ewh.ieee.org/r5/dallas/mtt/>

Power Engineering (PES):

Date: Section will be meeting every 4th Thursday of the month.
Location: Spring Creek Bar-B-Que at Preston and 635.

For more information, please contact:
Jessica Vance jvance@blumeng.com (214) 532-8403

Technology Management Council (TMC): & Life Member Group (LMG):

Topic: Program: TBD. Monthly Joint meeting.

Date: Friday, May 16, 2008

Time: 11:30 A.M.

Location: Holiday Inn Express, Richardson, TX
Telephone (972) 238-1900.

TMC Members: We are asking for donations to help keep us on budget.

Life Members and Students: no charge

For more information, contact:
Bob Bishop, **Chair Dallas Section TMC.** r.bishop@ieee.org

Paul Lakhanpal, **Chair Dallas Section LMG**
narindra_lakhanpal@hotmail.com

IEEE Dallas Section Awards Banquet 2008

Saturday May 3, 6:30 pm - 10:30 pm

Location: Hyatt Regency North Dallas/Richardson

Registration Fee: \$10 per person registration fee is due at the door

The event promises to be fun filled and entertaining.

In addition to the presentation of awards to the various recipients, there will be a casino night with lot of gifts at stake.

Please register for this event. Check our website at

<http://ewh.ieee.org/r5/dallas/AwardsBanquet2008/>

Dallas Section

Chapter Information

Aerospace and Electronic Systems (AES)

Website: <http://ewh.ieee.org/r5/dallas/aes/index.html>

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Program Chair: Jared Ellington (214) 654-5660

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Antennas and Propagation (AP)

Website: <http://www.ieeedallas-aps.org/>

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Circuits and Systems (CAS)

Website: <http://ewh.ieee.org/soc/cas/dallas/>

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Vice chair: Luke Wu

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Technical program chair: Bogdan Staszewski

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Communications & Technology (CVT)

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Computer (C)

Website: <http://chapters.computer.org/dallas/>

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Program Chair: Jim Bondi

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Consultants Network (CN)

Website: <http://www.ieeedallascn.org/>

Chair: Neil Kaden
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Consumer Electronics Society (CES)

Website: <http://www.dallasces.org/>

Chair: Sue Hui (214) 567-5017
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Education (E)

Past Chair William M. Riley (214) 478-4065
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If you are interested in volunteering/becoming an officer for this society, please contact the past chair, William Riley.

Electromagnetic Compatibility (EMC)

Website: <http://www.dallasemc.org/>

Chair Carl Irby (817) 777-9161
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Electron Devices (ED)

Chair Zeynep Celik-Butler (817) 272-1309
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Engineering in Medicine and Biology (EMBS)

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Program Chair: Roy Chaney, UTD

Engineering Management (EM)

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Laser & Electro-Optics (LEO)

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Chair Martin Achtenhagen (972)235-7584 x2227
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Microwave Theory and Techniques (MTT)

Website: <http://ewh.ieee.org/r5/dallas/mtt/>

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Power Electronics (PELS)

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Treasurer: Zao Yang

Secretary: Brent Markham

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Vice Chair: Mr. Robert B. Bishop (903) 815-8788
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Tease Your Brain!!!

You are lost in a forest. The forest is between two villages. In village A live only liars, they always lie. In village B people always tell the truth. You want to go to village B. Then you see a man from village A or B. You can ask him only one question. Which question will you ask him to know for sure where village B is?

Answer bottom of the page.



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, special announcements and information for publication should be submitted to Dinesh Rajan (rajand@enr.smu.edu) The deadline for submission of materials is no later than the 20th of the month prior to the month of publication.

Advertising: *Direction* is distributed to approximately 7,200 members in the Greater Dallas area.

Invoicing and/or contractual agreements for advertising are administered by Dinesh Rajan, Administrative Chairman and Mark Swenholt, Treasurer, IEEE Dallas Section. All ad insertions must be cleared through the executive board before publication. Advertising rates are as follows:

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