



Dallas Section

Direction

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From the Chair

by Kaijian Shi

Dallas has won four of the fifteen IEEE Region Awards on April 8th at IEEE Region 5 Award Banquet.

- We have won IEEE Region 5 Outstanding Large Section Award, thanks to all section and chapter officers who have done excellent job to make Dallas section successful. Thanks also to our members who have been supporting section and chapters. We attribute the successes to your supports and contributions.

- IEEE UTD Student Branch has won IEEE Region 5 Outstanding Large Student Branch Award. Well done!

- John Heatherly has won IEEE Region 5 Outstanding Student Member Award. Excellent job!

- Texas Instrument has won IEEE Region 5 Outstanding Large Company Award. I cannot thank TI enough for supporting IEEE Dallas section and society chapters in all aspects.

- More good news. UTA robotic team won the 3rd place in IEEE Region 5 Robotic Competition. Outstanding performance!

To recognize outstanding officers and members, we held a Dallas Section Award Banquet on April 29th and award section officers and chapter nominated officers and members for their outstanding contributions to IEEE Dallas. I understand we have more officers and members who have also done excellent job supporting IEEE Dallas. It is not possible to award all of them at the Award Banquet. Hereby, I'd like to thank them with all my heart.

To further activate IEEE operations and help members in Dallas, we have appointed two new section officers. Bob Bishop becomes Section Life Member Affiliate Officer and Atul Aranke is Section Chair of Graduates of the Last Decade (GOLD) affinity group. Please join me welcoming them on board and giving them your support.

IEEE membership in USA has been declining. We need your helps to reverse the trend. I am asking your support by reaching your friends and colleagues to share your experience with IEEE and show benefits of joining IEEE. Member-Get-A-Member program http://www.ieee.org/web/volunteers/membership_dev/mgm.html. This program is available with incentives for finding new members. You will get a \$5.00 credit voucher for every member that you recruit

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

DALLAS SECTION MAY 2006 MEETING

"Economic and Intellectual Development of UTD as a Research University of the 21st Century: Impact on Regional, National and International Landscapes"

Date: Tuesday, May 9th, 2006 Dinner/Section business: 06:30 PM - 07:00 P.M./Program: 07:00 ~ 8:00 P.M.

Place: Holiday Inn Select, Richardson 1655 N. Central Expressway

Speaker: Dr. Da Hsuan Feng, Vice President for Research and Economic Development and Professor of Physics, The University of Texas at Dallas

Program Summary: In this talk, I will discuss what it means to be UTD's VP for Research and Economic Development. As outlined in the recently launched strategic plan for UTD (http://www.utdallas.edu/strategicplan/) outreach to region, nation and global is high on the agenda. David E. Daniel, UTD's President for Research and Economic Development, set up a senior management position in his cabinet called VicePresident for Research and Economic Development as one of the vehicles of UTD to reach this lofty goal.

Resume Summary: My life experience - living on three different continents - has endowed me with a global perspective. Very early on, my mother, a classical pianist and my father, a foreign and war correspondent, instilled in me a deep respect for education. After 22 years of teaching and research, I became a Fortune 500 corporate vice president, and now a senior administrator for one of the fastest growing research universities in the Southwest. This variety of influences, experiences and global connections has developed into an intellectual, entrepreneurial and eclectic view of higher education. Such a view will be the basis of whatever endeavor I pursue in the future.

There is no membership requirement to attend this meeting.

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

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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

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

"Cross Field Antenna Performance"

Date: Thursday, May 4th, 2006
 5:45 pm: Dinner Buffet; 6:30 pm: Program

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

Speaker: **Professor Valentino Trainotti**
 University of Buenos Aires, Argentina

Program Summary: Lately, short antennas and Crossed Field Antennas (CFA) have attracted broadcast and amateur community attention. The CFA antenna has been developed in the last decade of the 20th century trying to obtain a compact transmitting antenna for low and medium frequency AM band. In this paper, CFA antenna has been studied exhaustively using the transmission line technique in order to obtain an equivalent circuit and the antenna performance. A Moment Method approach is also applied for comparison purposes, due to the lack of theoretical data to explain the CFA antenna behavior. Both techniques permit obtaining the same equivalent circuit, in order to know the accuracy of the results and the near fields generated by the antenna current flowing on the antenna monopole and disk. As a first approximation, the CFA is placed on a perfectly electric conducting (PEC) ground plane in order to obtain the antenna currents and the near fields. Near field calculation is used to determine the surface current density on the ground plane around the antenna and the wave impedance as a function of distance in space. Artificial ground plane behavior is paramount in obtaining the best performance of a CFA antenna due to its short height in wavelengths, as well as in any monopole antenna type.

Valentino Trainotti was born in Trento, Italy, in 1935. He received the Electronic Engineering Degree from the Universidad Tecnologica Nacional, Buenos Aires, Argentina in 1963. His post-graduate coursework on antenna measurements and geometric theory of diffraction was completed at California State University in 1981 and Ohio State University in 1985. He has worked from 1963 to 2003 at CITEFA as the Antenna & Propagation Division Chief Engineer. His work also includes being on the Engineering Faculty at the University of Buenos Aires as a part-time Full Professor of Electromagnetic Radiation and Radiating Systems for graduated students. He is an IEEE Senior Member, Member of the IEEE Ad-Com BTS Society, IEEE BT Transactions Associate Editor, IEEE BTS Argentina Chapter Chair, URSI Commission B Argentina Chair, and 1993 IEEE Region 9 Eminent Engineer. He has worked more than thirty years developing and measuring antenna systems for several applications from LF to SHF.

Door prize raffle!

For more information, please contact:

Dr. Choon Sae Lee, AP Chairman, 214-768-3257, cs@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

See Symposium Flyer on Page 3

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

"Experience and Lessons Learned in Entrepreneurship"

Date: Monday, May 8th, 2006,
 Social/Networking/Dinner 6:15 pm
 Program 6:45 pm.

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

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light supper buffet)

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

Speaker: **Dr. Janet Lind, Assistant Dean,**
Erik Johnson School of Engineering, of Student Services, UTD

Program Summary: Dr. Lind will discuss experiences and lessons learned in surviving and growing to leadership positions in the DFW Telecomm world over the past ten years, including both large company and start-up challenges. She will review which skills and methods are directly transferable, and which ones are "for reference only" when moving between the two environments.

Dr. Janet Lind is currently the Assistant Dean of Student Services for the School of Engineering and Computer Science at The University of Texas at Dallas, and is a member of the Computer Science Department faculty. She received her PhD from Tulane University in 1984, and joined UTD in the fall of 2004. Prior to that time, Dr. Lind has worked in industry for companies including Hewlett Packard, Litton Data Systems, Nortel Networks / BNR, Siemens, and startups Cyneta Networks and Spatial Wireless. Janet has worked primarily in R&D, and has significant management experience with over 10 years at the Senior Director or Vice President level.

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

Consumer Electronics

"Managing the Digital Home: Installation and Support Services"

Date: Tuesday, May 9th, 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: **Mr. Kurt Scherf, Vice President of Research, Parks Associates**

Program Summary: Mr. Kurt Scherf will present recent findings from Parks Associates study, "Managing the Digital Home." His presentation will cover the current landscape and the market potential for digital home support services. This presentation is well suited for broadband providers, retailers, consumer electronics manufacturers, IT support personnel, integrators, software developers, and PC Manufacturers.

Mr. Kurt Scherf studies developments in home networks, residential gateways, digital entertainment, technology development in the housing market, and residential and building management and controls. Kurt is the sole author or contributing author/analyst to more than 30 research reports and studies produced by Parks Associates since 1998. Kurt joined Parks Associates following a career in political research and multi-tenant dwelling management. He earned his BA from The University of Iowa.

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

"EMC War Stories"

Date: Tuesday, May 16th, 2006
 Refreshments 6:00 -- Program 7:00 P.M.
 RSVP to Bill Paschetag, bpaschetag@IEEE.org

Place: NEMKO
 802 North Kealy
 Lewisville TX

Speaker: **Mr. Carl Irby, Lockheed-Martin, Ft. Worth**

Program Summary: This will be the seventh annual EMI/EMC War Stories presented by the Dallas Chapter of the IEEE/EMC Society. Attendees are invited to participate in this informal roundtable discussion of unique, sometimes humorous, sometimes serious EMI/EMC problems and solutions. Please feel free to bring samples, slides or photographs as required to describe your individual tale of woe.

Carl Irby, an EMC Engineering Specialist at Lockheed-Martin, Ft. Worth, will be the moderator.

Coming on July 13th – the Dallas EMC Colloquium, Radisson Hotel, Richardson

"EMC Design Concepts and Applications for the Real World", with noted EMC speakers *Dr. Bruce Archambeault* and *Mr. Lee Hill*. See the program summary on the Dallas EMC website <http://DallasEMC.org>. For registration information, contact Bill Paschetag, bpaschetag@ieee.org.

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

"Keiretsu Forum"

Date: Friday, May 12th, 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. LAURENCE BRIGGS, Chapter President**

Program Summary: Mr. Laurence Briggs will speak on Funding for new ventures, processes already in place, reasons why you may, or may not, want to pursue new funding. Laurence is an engaging speaker, as shown by recent presentations in the Dallas area.

Laurence Briggs is a co-founder of the InvestIN Group and has been the CEO since 1995. Mr. Briggs qualified as a professional accountant at the London School of Accountancy (London University) in the '70s and he is a Fellow of the Sloan Fellowship program - London Business School (London University) 1982/3.

Mr. Briggs is the founder and Chapter President of the Dallas/Fort Worth chapter of The InvestIN Forum of Angel Investors. He is an avid supporter and member of the Dallas chapter of The Association for Corporate Growth, the Dallas chapter of TexChange, and the Tech Business Council of The Greater Dallas Chamber of Commerce.

Mr. Briggs speaks English and French fluently.

Mr. Briggs holds the NASD series 7, 63 and 24 securities licenses. Loves to cook, ride motor cycles, ski and make jewelry boxes.

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 (reve@tatx.com) or Bob Coats (rcoats@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

"Negative Bias Temperature Instability in ULSI CMOS Technology"

Date: Tuesday, May 16th, 2006
Program 6:30 PM

Place: UTD Engineering and Computer Science Building, Room 3.503

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Speaker: **Mr. Anand T. Krishnan, Texas Instruments**

Program Summary: Negative bias temperature instability (NBTI) has become one of the most significant reliability concerns in recent years. NBTI manifests as a threshold voltage increase and consequently, a drive current reduction. This mechanism is difficult to work-around through transistor design modification (unlike hot carrier-induced degradation, which can be reduced by using lightly doped drains), because it affects PMOS transistors in CMOS circuits that are biased in inversion, even when the circuit is not switching. This instability mechanism has existed for forty years, but has come to the forefront recently due to a confluence of process and design modifications needed for advanced technology nodes. Consequently, this has led to significant research activity in this area, resulting in improved understanding of the underlying physics of NBTI degradation.

In this presentation, the NBTI kinetics will be briefly described, and the mechanism of process impact will be related to the kinetics. The device impact of NBTI degradation will then be quantified, followed by a demonstration of the circuit & product impact.

Anand T. Krishnan received his Bachelor of Technology degree in Metallurgical Engineering from Institute of Technology, BHU, Varanasi, India in 1994, and M.S. and Ph.D degrees in Materials from The Pennsylvania State University in 1997 and 2000, respectively. In 2000, he joined the silicon technology development group at Texas Instruments, where he is currently working as a Reliability Engineer. His interests and activities are in the areas of negative bias temperature instability and plasma charging damage. He has served in the technical program committee for the International Reliability Physics Symposium (IRPS), Integrated Reliability Workshop (IRW) and for the Plasma Process-Induced Damage Symposium (P2ID). He has authored or co-authored 32 papers and 5 patents.

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

Signal Processing

For Program information please contact Chapter Chair

Solid State Circuits

For Program information please contact Chapter Chair.



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:

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**WEDNESDAY,
MAY 24, 2006**

Schedule:

1:00 - 5:00 pm: Speakers
5:00 - 7:00 pm: Networking
& Dinner
7:00 pm - Baseball Game

Location: Frisco, TX
Embassy Suites &
Frisco Rough Riders

Register NOW for discounts:
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For more information, please go to <http://www.cvt-dallas.org> or



contact Judah Epstein at

Judah@JudahEpstein.com



H-1B Interested Members

Notice to H-1B Interested Members from Ed Carrales, Dallas Section Government Relations Officer:

For those of you who can't attend the IEEE-USA sponsored fly-in to Washington D.C. May 2-3 in support of H-1B reforms but want to take action locally for same, contact me at edcarrales@sbcglobal.net.

For more information on H-1B issues, visit IEEE website at:

<http://www.ieeeusa.org/policy/issues/H1bvisa/index.html>.

This website has H-1B information and a comprehensive set of links to other websites addressing:

- *IEEE-USA Position Statements*
- *IEEE-USA Testimonies and Communications*
- *How You Can Help*
- *Other Information Resources*
- *Other Position Statements*
- *Government Websites*
- *Government Reports*
- *Other Reports*

