

The Valley Megaphone

Newsletter of the
**Institute of Electrical and
Electronics Engineers, Inc.,
Phoenix Section**
June 2010,
Volume XXIV, Number 6



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IEEE Phoenix Section on-line updates can be found on our Web site at:
<http://www.ieee.org/phoenix>

and on LinkedIn at:
<http://www.linkedin.com/groups?gid=2765918>

Please send announcements for the *Valley Megaphone* to Satish Ayer at satish.ayer@ieee.org and to Russ Kinner at r.kinner@ieee.org for inclusion in the Section Calendar.

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U – News

(for Student Members)

This U-News Page, initiated last year, will continue to serve as a focal point for communications related to Student Branch Activity. The Section Executive Committee requests student recommendations for Improvements and support in expanding student branch membership.

Nick Leonardi
480-720-1435 Cell
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Student Activities Chair

Student Branches

ASU Main, Engineering

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ASU Main, Computer Society

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ASU Polytechnic

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Advisor: TBD

DeVry, Phoenix

Chair: TBD
Advisor: Diane Smith
dsmith2@devry.edu

DeVry, Computer Society

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Embry-Riddle, Prescott

Chair: Tim Lemm
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U – Newsbytes

CONGRATULATIONS to the 2010 Graduating Classes for all schools with best wishes for continued participation as industry professionals!

- ASU Polytechnic is currently seeking Advisor for the Student Branch. Please email Nick (at email address above) with Recommendations.
- Student volunteers are being enlisted by the IEEE Event Organizers for IECON 2010 in Glendale, AZ. Details to be published as available.



36th Annual IEEE Industrial Electronics Conference (IECON 2010)



7-10 November 2010, Glendale, AZ

Call for Participation

Industrial Electronics Conference (IECON) is an IEEE international conference on industrial applications of electronics, control, robotics, signal processing, computational and artificial intelligence, sensors and actuators, instrumentation electronics, computer networks, internet and multimedia technologies. The objectives of the conference are to provide high quality research and professional interactions for the advancement of science, technology, and fellowship. Papers with new research results are encouraged for submission. IECON'10 is being held concurrently with the 4th IEEE International Conference on E-Learning in Industrial Electronics (ICELIE'10) and the Industry Forum. Participation in all three events just requires the IECON'10 registration fee. Industry, research, and academia are cordially invited to participate in the wealth of presentations, tutorials, exhibits, plenary sessions, and social activities for the advancement of science, technology, engineering education, and fellowship. Accepted and presented papers will be published in the respective conference proceedings, and included in the IEEE *Xplore*® online digital library and EI Compendex database. Detailed information about manuscript submission is available at the following website:

<http://iecon2010.njit.edu>

Important Dates for Authors:
Contributed papers: 26 April 2010
Tutorial proposals: 3 May 2010
Special Session proposals: 1 March 2010
Notification of acceptance: 1 July 2010
Final submissions due: 6 September 2010

Waves and Devices**Phoenix Chapter**<http://ewh.ieee.org/r6/phoenix/wad/>**2010 Calendar**

| <u>Date</u> | <u>Time</u> | <u>Location</u> | <u>Topic / Title</u> | <u>Speaker</u> | <u>Affiliation</u> | <u>IEEE Society</u> |
|---|-------------|-------------------------------|--|------------------------------|---|---|
| 27-Jan | 0-Jan | Agilent, Chandler | Digital Pre-Distortion for high linearity RF Power Amplifiers | Dr. John Wood | Freescale | ED & MTT |
| 3-Feb Jointly Sponsored w/ ASU Center of Nanophotonics | 0-Jan | ASU, GWC-487 | Si Photonics: Towards Lasers on Silicon | Dr. Sangam Chatterjee | Philipps-Universität Marburg Marburg, Germany | Photonics Center of Nanophotonics |
| Thursday Feb. 4 | 0-Jan | Agilent, Chandler | Roth IRA Conversions – What You Need To Know | Mr. Greg Wojak | LPL Financial | General Interest |
| Friday Feb. 19 | 0-Jan | ASU Brickyard | Non-Foster Reactances for Electrically- Small Antennas, High-Impedance Surfaces, and Engineered Materials | Dr. Jim Aberle | ASU | AP & MTT |
| Wed March 3 Jointly Sponsored w/ ASU Center of Nanophotonics | 0-Jan | ASU, GWC-487 | Microscopic modelling and experimental results on high-power VECSELS | Prof. Dr. Stephan W. Koch | Philipps-Universität Marburg Marburg, Germany | Photonics and ASU Center of Nanophotonics |
| Wed. March 17 | 0-Jan | Agilent, Chandler | High Speed Inter-Satellite Laser Communications Systems Design | Dr. Davis Hartman | General Dynamics | Photonics |
| Wed. March 26 Jointly Sponsored w/ ASU Center of Nanophotonics | 0-Jan | ASU GWC-490 | Vertical External-Cavity Surface- Emitting Semiconductor Lasers for Compact High-Power Visible-IR Sources | Dr. Mahmoud Fallahi | College of Optical Sciences University of Arizona | Photonics |
| Friday, Apr. 9 | 0-Jan | ASU GWC-487 | State-of-the-Art Time-Domain Measurement and Modeling Techniques for Non-linear Components & Systems | Dr. Christopher Silva | The Aerospace Corp. | MTT |
| Wed., April 14 Jointly Sponsored w/ ASU Center of Nanophotonics | 0-Jan | ASU GWC-487 | Surface and Strain Driven Morphology in the MBE Growth of Quantum Dots | Dr. Kurt G. Eyink | AFRL/RXPS Wright Patterson AFB, Ohio | Photonics |
| Friday, April 16 - Postponed | 4:00PM | ASU, GWC-487 | Coupled EM/Device/Circuit Modeling Approach for RF/mm-wave IC's | Zheng Huang | ASU / PedaSoft | MTT |
| Thursday, April 29 | 0-Jan | ASU Brickyard 6th Floor | Communications-Electronics and Enabling Mixed Signal Technologies | Dr. Barry Perlman | IEEE / Army | General |
| Thursday May 13 | 0-Jan | ASU GWC-487 | Are You Smarter Than a DARPA PM? | Dr. Robert Reuss | Consultant | General |
| Thursday, June 24 | 6:00 PM | Agilent, Chandler | Space Communications | Robert Anderson | General Dynamics | MTT, AP |
| Thursday, Aug. 5 | 6:00 PM | Agilent, Chandler | Rough-Metal-Surface Propagation Loss Modeling | Dr. Henning Braunisch | Intel | MTT |
| Thursday, Sep. 16 | 6:00 PM | Agilent, Chandler | From mm-Wave Measurement to Design: Measurement, De-embedding and Design | Dr. Marcel Tutt | Freescale | ED & MTT |
| Thursday, Oct. 14 | 6:00 PM | Agilent, Chandler | Radio Communications System on Next Generation Manned Space Vehicle | William Boger | General Dynamics | MTT, AP |
| Friday, Nov. 12 | 3:00 PM | ASU | Wireless Networks for Medical Implant Devices | Dr. Sayfe Kiaei | ASU | ED, MTT, & AP |

INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS
WAVES AND DEVICES - Phoenix Chapter



Meeting Free & Open to Non-IEEE Members

6:00 PM, Thursday, June 24th, 2010

Agilent Offices, 4330 West Chandler Blvd, Chandler
(East side of Stellar Business Center Office Park)



A History of Space Communications in the Valley of the Sun

Mr. Robert Anderson

General Dynamics – AIS

robert.j.anderson@gd-ais.com

Abstract

General Dynamics Advanced Information Systems (formerly Motorola Government Electronics Group) has played a significant role in providing space communications for over 50 years. GDAIS provided early space communications, such as basic telemetering, to modern day sophisticated TT&C transponders, supporting deep space missions, as well as manned missions from Apollo to Space Station. GDAIS continues to support space communications well into the 21st century, taking on the demands of innovation and cost-containment in more advanced and challenging missions.

Biography



Bob Anderson is a microwave design and systems engineer, involved primarily with TT&C and space communications. He has been with General Dynamics Advanced Information Systems (formerly Motorola) for over 30 years, and has been a contractor representing General Dynamics supporting Mission Control at the Johnson Space Center during critical phases of EVA (extravehicular activity). Mr. Anderson holds a Bachelor of Science Degree in Engineering (Electrical Engineering) and a Master of Engineering (emphasis in Electromagnetics and Microwave Circuits), both from Arizona State University. He received the Valley Metro Clean Air Award for Multi-Modal Transportation Trip Reduction in 2009, and the 2010 IEEE Waves and Devices Chapter Award for

significant professional contributions to his employer, profession, and the space electronics industry. He lives with his wife and 2 of his 5 children in Chandler, Arizona.

Date: Thursday, June 24th, 2010

Time: 6:00 PM *Presentation*, Pizza will be served following the Seminar

Location: [Agilent Office, Suite 367, 4330 West Chandler Blvd., Chandler AZ 85226](#)
(In Stellar Business Center on North side of Chandler Blvd west of McClintock Rd.)

For more information, contact: Steve Rockwell (WAD Chapter Chair) (480) 241-9891 steve.rockwell@ieee.org
Chuck Weitzel (Chapter Publicity) (480) 292-0531 c.weitzel@ieee.org

WAD Website: <http://ewh.ieee.org/r6/phoenix/wad/>



Power & Energy Society Announcements



- **We have entered into the summer period. There will be no more technical luncheons until September 16th when last year's PES President Wanda Reder will present on interconnecting wind farms. Please note that we will no longer be holding luncheons at APS. We will provide the new venue information on the PES website once the details have been settled.**
- **The Phoenix PES chapter is forming a Local Organizing Committee for the March 2011 Power Systems Conference & Exposition. The LoC will assist the PSCE steering committee with organizing utility participation, conducting technical tours, and running the Companions program. Volunteers are needed both for the LoC and during the event. Volunteers will be compensated with Conference attendance.**

Please contact bruceladewig@ieee.org for details and to volunteer.

Conference details can be found at <http://www.psceexpo.com/>



2011 IEEE PES Power Systems Conference & Exhibition

<http://www.pscexpo.com/>



2011 IEEE PES

Power Systems Conference & Exposition

Focused on Power Systems Operations, Planning, Policy, Markets, Analysis, and Control

THE NEXT GENERATION GRID...PUTTING IT ALL TOGETHER

March 20-23, 2011
Phoenix, Arizona, USA



A comprehensive program that offers attendees in-depth information on the following topics:

- Smart sensing, communication and control in energy systems
- Smart grid for distributed energy resources
- Smart grid for cyber and physical security systems
- Emerging software needs for the restructured grid
- System-wide events and analysis methods
- Intelligent monitoring and outage management
- Integrating wind and solar energy into the grid
- Substation and distribution automation
- Internet tools for better understanding of power systems
- Dynamic performance and control of power systems
- Market interactions during system-wide events
- Asset management

and much more

The PSCE Audience-Who Should Attend: A program that has been designed for an international group of practicing power systems engineers, operators, planners, policy makers, economists, and others with interest in advancing state-of-the-art power systems. The conference will include a plenary session as well as tutorials on the most up-to-date topics on power systems. Timely and important paper, panel and poster sessions will be presented during the three-day conference.

The Exposition Offers Attendees a Look at State-of-the-Art Systems Technology: Attendees will have the opportunity to interact with the manufacturers and service providers who can provide the information that is essential to the multi-faceted field power and energy. Software and hardware systems and consulting services will be on display from leading companies in the field.

The paper submissions will open in August 2010.



Watch for program updates at: www.pscexpo.com

IEEE Phoenix Life Member Affinity Group

The IEEE Phoenix Section Life Member (LM) Affinity Group was organized to enable IEEE Life Members to retain active IEEE associations, contribute to the social good in their communities, advance IEEE's professional interests and enjoy each other's company.

An IEEE member automatically becomes an IEEE "Life Member" status when at least 65 years of age and the sum of your current age and years of membership is 100. For more details use the link

http://www.ieee.org/web/volunteers/mga/home/life_members_committee/index.html

Activities

Annually, three technical meetings and three administrative meetings meet our minimum required activity.

May 11 administrative meeting annual technical meetings to be scheduled in February, May, October, and December.

Technical meeting topics and suggested speakers are encouraged. Contact any Officer.

Future Group Meetings

- Wednesday, October 11, 11am – 1pm
SRP's PERA Club's Bighorn
1 East Continental Drive, Tempe, AZ ([map](#))
- Wednesday, December 7, 11am – 1pm
SRP's PERA Club's Bighorn
1 East Continental Drive, Tempe, AZ ([map](#))

Future Technical Meetings

- October 5, 2010 SRP PERA CLUB
- December 7, 2010 SRP PERA CLUB

Officers

| | | |
|---------------|-------------------------|--|
| Chair | C. Bruce Johnson | cbj@johnsonscientificgroup.com |
| Vice Chair | Michel Ebertin | Michel@ebertin.net |
| Secretary | A. Barry Cummings | Barry.Cummings@srpnet.com |
| Treasurer | Leslie Daviet II | lesdavietii@cs.com |
| Program Chair | Ronald L. Sprague, P.E. | rlsprague@cox.net |
| Past Chair | Professor George Karady | karady@asu.edu |



Computer Society Technical Meetings

Phoenix Chapter Website

www.ewh.ieee.org/r6/phoenix/compsociety



Future Events

- **August (date T.B.D.) – Chapter officer’s Fall Planning meeting; location T.B.D.**
- **September 8, 2010 – Chapter Meeting; location T.B.D. – (Tentative)
Program: **Apple workshop** (iPhone 4.0, iPad overviews)**
- **October 6, 2010 – Chapter Meeting @ DeVry University (Phoenix);
Speaker: Jerry Crow; ‘**Cryptography, Part 1**’**
- **November 3, 2010 – Chapter Meeting @ DeVry University (Phoenix);
Annual Chapter elections; Speaker: Jerry Crow; ‘**Cryptography, Part 2**’**
- **December 1, 2010 - Chapter Meeting; Technical Speaker/location: TBD
(Linux, Android workshop?)**
- **Spring 2011 – ½-day workshop?**

Please contact jjcandelaria@ieee.org or any of our officers to suggest a topic and/or speaker for any of our upcoming meetings.

Past Meetings

For information about any past meetings and presentation files, go to:

www.iececs.com



IEEE Phoenix Area Consultants Network



Our current officers are:

| | | |
|------------------|-------------------------|--|
| President | Ronald L. Sprague, P.E. | r.sprague@ieee.org |
| Vice President | C. Bruce Johnson | cbj@johnsonscientific.com |
| Treasurer | Bill Morgan | bill.morgan@cox.net |
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| Member at Large | Ed Bawolek | bawolek@ieee.org |

We have established a tentative schedule of programs for the next year, so we can all plan for future attendance.

Our meetings are held on the second Thursday of the month, unless otherwise indicated.

We invite any of the IEEE Phoenix Section members and student members to attend our meetings, and we would like some inputs on program topics. Some of the topics we are considering for future meetings are:

- SCORE assistance for Small Business Startups
- The State of Arizona Mechanic's Lien Laws and their application to consultants
- Engineering Registration requirements for offering Professional Engineering services

We will be happy to add any new topics, if they are of interest to the Phoenix Section Membership.



2011 IEEE Phoenix Section Officer Nominations

The IEEE Phoenix Section is seeking nominations for the following Section officer positions for the 2011 term: Chair, Vice Chair, Secretary, and Treasurer. Section officers must be IEEE members. Self-nominations are acceptable.

Please send nominations or any questions to :

Bruce Ladewig (e-mail: bruceladewig@ieee.org),

copying also Nominating Committee members

Hugh Barnaby (e-mail: hbarnaby@asu.edu) and
Steve Rockwell (e-mail: steve.rockwell@ieee.org)

Section members are urged to submit your nominations within one month of this call for nominations.

Sincerely,

Bruce Ladewig

Chair, Nominating Committee, Phoenix Section



Dr. David Frakes, Communication & Signal Processing Chapter Chair

David Frakes joined Arizona State University (ASU) as an Assistant Professor in the spring of 2008. He received a BS degree in Electrical Engineering and MS degrees in Electrical Engineering and Mechanical Engineering from the Georgia Institute of Technology, where he also earned a PhD in Bioengineering and performed post-doctoral work. Professor Frakes' research interests include image and video processing, fluid dynamics, and controls. He co-founded 4-D Imaging, Inc., in 2003 and currently manages the Image Processing Applications Laboratory within the School of Biological and Health Systems Engineering and the School of Electrical, Computer, and Energy Engineering at ASU. Professor Frakes was inducted into the Georgia Institute of Technology Council of Outstanding Young Alumni in 2007 and was named the ASU Centennial Professor of the Year in 2009. His contact information can be found below:

David H. Frakes, PhD

Assistant Professor

Arizona State University

School of Biological and Health Systems Engineering

School of Electrical, Computer, and Energy Engineering

email: dfrakes@asu.edu

office: (480)727-9284

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Upcoming IEEE Conferences in Phoenix

The ***IEEE Industrial Electronics Society (IES)*** of the IEEE is holding **IECON 2010 - 36th Annual Conference of IEEE Industrial Electronics** 7-10 November 2010 in Glendale, AZ. For more information:

<http://iecon2010.njit.edu/>

The ***IEEE Microwave Theory and Techniques Society*** will sponsor the conference entitled **2011 IEEE Radio and Wireless Symposium (RWS)**. This conference will be held in Glendale, AZ on January 16-20, 2011.

For further information, please contact,
George E. Ponchak, NASA Glenn Research Center
21000 Brookpark Rd., MS 54/5
Cleveland, OH 44135
george.ponchak@ieee.org

Both of the above Conferences are being held at the Renaissance Glendale Hotel, Glendale, AZ. The hotel is adjacent to the Univ. of Phoenix Stadium and Jobing.com Arena at Westgate.

The ***IEEE Instrumentation and Measurement Society*** will sponsor the conference entitled **2010 IEEE International Workshop on Haptic Audio Visual Environments and Games (HAVE 2010)**. This conference will be held in Phoenix, AZ on October 16 - 17, 2010.

For further information, please contact,
Chris Dyer
1115 Westport Dr
Ste. D-2
Manhattan, KS 66502
+1 785 783 5520
cdyer@conferencecatalysts.com
<http://have.ieee-ims.org/>

or Conference Business Services Dept., at IEEE Operations Center at +1 732 562 3878.
(Ed. Note: the link above has not yet been updated with the 2010 information as of the date of publication, February, 2010)

The ***IEEE Power & Energy Society*** will sponsor the conference entitled **2011 Power Systems Conference & Exhibition (PSCE)**. This conference will be held in Phoenix, AZ on March 20-23, 2011. For further information please click on the following link:

<http://www.psceexpo.com/>

Phoenix Section Executive Committee Meeting

Venue: Phoenix Airport Hilton
2435 S 47th St, Phoenix, AZ, 85034 ([map](#))
Tel.: 480-804-6017

More Info: Meetings are held on the first Tuesday of the month.
- Except for July & August

All interested IEEE members are welcome to attend.

Contact: Dr. Henning Braunisch, Phoenix Section Chair
braunisch@ieee.org

IEEE Phoenix - Calendar of Events

You may access the IEEE Phoenix Section Calendar of Events at:

<http://ewh.ieee.org/r6/phoenix/Calendar.htm>

For inputs and updates to the Calendar, please contact the IEEE Phoenix Section Conferences Chair, Russ Kinner at 602-997-2353 or e-mail: r.kinner@ieee.org

Phoenix Section Present on LinkedIn!

If you are interested in professional networking and shared Section related updates & discussions join the new [IEEE Phoenix Section Group on LinkedIn](#). Signing up only takes minutes and is free. A job board is available as well.