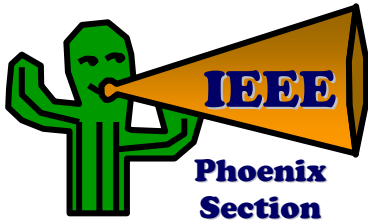


# The Valley Megaphone

## Newsletter of the Institute of Electrical and Electronics Engineers, Inc., Phoenix Section

December 2010,  
Volume XXIV, Number 12



### Executive Committee - 2010

#### Chair

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<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](mailto:satish.ayer@ieee.org) and to Russ Kinner at [r.kinner@ieee.org](mailto:r.kinner@ieee.org) for inclusion in the Section Calendar.

### Chapters

#### Signal Processing & Communications

David Frakes, 480-727-9284

[dfrakes@asu.edu](mailto:dfrakes@asu.edu)

#### Computer Society

Jerry Crow

[jerry8128@gmail.com](mailto:jerry8128@gmail.com)

#### Consultants Network (PACN)

Ronald L. Sprague, 602-828-7374

[r.sprague@ieee.org](mailto:r.sprague@ieee.org)

#### CPMT Society

Surinder Tuli, 480-554-8275

[surinder.k.tuli@intel.com](mailto:surinder.k.tuli@intel.com)

#### Education Chapter

Martin Reisslein, 480-965-8593

[reisslein@asu.edu](mailto:reisslein@asu.edu)

#### EMBS Chapter

TBD

#### EMC Society

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#### GOLD

David Huerta

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#### Power & Energy Society

Bruce Ladewig, 480-620-9291

[bruceladewig@ieee.org](mailto:bruceladewig@ieee.org)

#### Solid State Circuits

Mohamed Arafa

[mohamed.arafa@ieee.org](mailto:mohamed.arafa@ieee.org)

#### Teacher-In-Service

Mike Poggie

[mike.poggie@ieee.org](mailto:mike.poggie@ieee.org)

#### Waves & Devices Society

Steve Rockwell

[steve.rockwell@ieee.org](mailto:steve.rockwell@ieee.org)

#### Life Members

C. Bruce Johnson

[cbj@johnsonscientificgroup.com](mailto:cbj@johnsonscientificgroup.com)

## **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  
[nleonardi@ieee.org](mailto:nleonardi@ieee.org)  
Student Activities Chair

### **Student Branches**

**ASU Main, Engineering**  
Chair: Harshini Yerra  
[ieeasuchair@gmail.com](mailto:ieeasuchair@gmail.com)  
Advisor: Cihan Tepedelenlioglu,  
480-965-6623, [cihan@asu.edu](mailto:cihan@asu.edu)

**ASU Main, Computer Society**  
Chair: Nicholas Vaidyanathan  
[nvaidyan@asu.edu](mailto:nvaidyan@asu.edu)  
Advisor: Guoliang Xue  
480-965-6218, [xue@asu.edu](mailto:xue@asu.edu)

**ASU Polytechnic**  
Chair: Justin Burrell  
[justin.burrell@asu.edu](mailto:justin.burrell@asu.edu)  
Advisor: TBD

**DeVry, Phoenix**  
Chair: TBD  
Advisor: Diane Smith  
[dsmith2@devry.edu](mailto:dsmith2@devry.edu)

**DeVry, Computer Society**  
Chair: TBD  
Advisor: Diane Smith  
[dsmith2@devry.edu](mailto:dsmith2@devry.edu)

**NAU, Engineering**  
Chair: Kenji R. Yamamoto  
[kry3@nau.edu](mailto:kry3@nau.edu)  
Advisor: Niranjana Venkatraman  
[v.niranjana@ieee.org](mailto:v.niranjana@ieee.org)

**Embry-Riddle, Prescott**  
Chair: Tim Lemm  
[timothy.lemm@erau.edu](mailto:timothy.lemm@erau.edu)  
Advisor: John E. Post  
[postj@erau.edu](mailto:postj@erau.edu)

## **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.

Start your own MicroMouse and compete for cash prizes!

- The Section has a full tournament sized MicroMouse maze. Funding for your project may be available. For details contact the Section Student Activities Chair, Nick Leonardi at [nleonardi@ieee.org](mailto:nleonardi@ieee.org).
- View pictures from the MicroMouse contest at the Southwest Area Spring 2010 meeting at <http://picasaweb.google.com/ieeegoldphx/2010IEEEESWASpringMeeting> (photography by David Huerta, GOLD Affinity Group Chair)



**IEEE Signal Processing Society  
14<sup>th</sup> DSP & 6<sup>th</sup> SPE Workshop  
Enchantment Resort, Sedona, Arizona USA  
January 4-7, 2011**

**Call for Participation**

The 2011 IEEE Digital Signal Processing (DSP) Workshop and IEEE Signal Processing Education (SPE) Workshop will be held jointly January 4 to 7, 2011, at the award-winning Enchantment Resort. The Enchantment Resort is located 5 miles from Sedona in Boynton Canyon, two hours north of the Phoenix / Scottsdale metropolitan area and two and a half hours south of the Grand Canyon. The venue is surrounded by the Coconino National Forest and Red Rock Secret Mountain Wilderness. The area is revered by the Apache Native Americans as the birthplace of their tribe and holds ancient ruins of Native American cliff dwellings.

The goals of the workshops are to bring together leading engineers, researchers, and educators in signal processing from around the world to discuss novel signal processing theories, methods, and applications. The DSP/SPE Workshops will feature prominent plenary speakers from the signal processing community as well as technical sessions for presenting contributed papers.

<b>Registration Desk opens - 1 PM</b>	January 4, 2011
<b>Conference first training session - 3 PM</b>	January 4, 2011
<b>Conference concludes - 5 PM</b>	January 7, 2011

For more information, please click on the following link:

<http://www.dspe2011.org/>



## Phoenix Chapter of IEEE Signal Processing Society and Communications Society



Thanks to the attendees who made the November technical meetings successful.

Please contact David Frakes ([dfrakes@asu.edu](mailto:dfrakes@asu.edu)) to volunteer or propose a speaker for upcoming meetings.

DON'T FORGET TO REGISTER FOR THE SEDONA DSP WORKSHOP,  
January 4-7, 2011!

<http://enpub.fulton.asu.edu/ivu/Workshops/DSPE2011/>

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## SSCS-Phoenix Chapter

Hugh Barnaby is stepping down as SSCS-Phoenix Chapter Chair. For the next year the Officers will be:

Mohamed Arafa	Chair
Jennifer Blain Christen	Vice Chair
Mirembe Musisi-Nkambwe	Treasurer

## FOR IMMEDIATE RELEASE

September 29, 2010

Contact: Michael Book  
Gunn Communications  
623-258-3128  
or  
Michael Andrews  
(602) 368-6013  
[michael@andrews-associates.com](mailto:michael@andrews-associates.com)



## Future City Competition

Phoenix, AZ – The Arizona Region Future City Committee is seeking volunteers to share their engineering knowledge with students participating in this year's Future City competition. Both engineering mentors and judges are needed.

Engineering mentors will provide guidance and support to teams of students throughout the state as they prepare all competition deliverables. The time commitment is approximately 4-6 hours per month during November through January. For additional information, prospective mentors may contact Jennifer Bohac at [jbohac@scottsdaleaz.gov](mailto:jbohac@scottsdaleaz.gov) or Charles Griffith at [cgriffith@ritochpowell.com](mailto:cgriffith@ritochpowell.com).

Competition judges work in teams to score all competition deliverables at the Arizona Future City Competition Region Finals, to be held January 22, 2010. Prospective judges may contact Jason Fort at [Jason.fort@dibblecorp.com](mailto:Jason.fort@dibblecorp.com) or Jeff Van Skike at [jkvanskike@cox.net](mailto:jkvanskike@cox.net).

A national education program sponsored by the engineering community, Future City Competition promotes technological literacy and engineering to middle school (6–8th grade) students. Student teams, supported by teachers and volunteer engineers, design and build their vision of a future city. They use computer simulations, research essays, scale models and team presentations to communicate their vision.

"Mentoring re-energized my focus on how engineers truly make a difference in the lives of everyday people. I would encourage everyone to take the time to work with students because it is such a gratifying experience," says Charles Griffith, PE, CFM, Ritoch-Powell & Associates.

The winning team at Arizona Future City Competition Region Finals will compete in national finals in Washington, DC. For complete Arizona Region Future City information, please visit [www.futurecity-arizona.org](http://www.futurecity-arizona.org).

###





## **36<sup>th</sup> Annual IEEE Industrial Electronics Conference (IECON 2010)**



The IECON 2010 is history and a great success. Over 600 engineers attended the conference and almost 100 took one or more tours that the Phoenix Section helped to arrange. That included the University of Phoenix Stadium as well as the Grand Canyon.

Major Topics of the conference included:

Control Systems and Applications

Power Electronics and Renewable Energy

Electrical Machines and Drives

Signal and Image Processing and Computational Intelligence

Sensors, Actuators, and Systems Integration

Factory Automation and Industrial Informatics

Mechatronics and Robotics

Our own Dr. George Karady presented at one of the luncheons on developments concerning the FREEDM System – The Energy Internet. Its mission is to develop the fundamental and enabling technologies necessary for a new and paradigm shifting future power grid infrastructure, the FREEDM System. George filled in for the author who could not attend and did a fine job.

Next year for the first time IECON (the 37<sup>th</sup> annual) will be held in the southern hemisphere, namely Melbourne, Australia on November 7-10, 2011.

Note that this was the first of several conferences being held in the Phoenix area. The listing later in this issue of the Megaphone provides links to each conference's web site to obtain more information. The biggest one of the bunch is the PSCE in March. Take advantage of the local nature of the venue and attend any of the conferences that may be of interest.



## INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS

COMPONENTS, PACKAGING AND  
MANUFACTURING TECHNOLOGY SOCIETY  
ECTC Electronic Components & RF Program Committee  
CPMT RF & Wireless Technical Committee



**61st ECTC May 31 – June 3, 2011**  
**Walt Disney World Swan & Dolphin Resort**  
**Lake Buena Vista, Florida USA**

The ECTC Electronic Components & RF Program Committee and the CPMT RF & Wireless Technical Committee encourage you to submit an abstract to ECTC 2011 in the areas of passive components & networks, RF & Microwave components & modules, and subsystems. ECTC is the premier Electronic Components and Packaging conference held annually and attended by about 1000 delegates with equal participation from companies and academia. As in the past, Electronic Components, RF & Microwave, and MEMS related papers are solicited for focus sessions during this prestigious conference.

### **RF, Microwave, Terahertz Components & Modules**

Integrated antennas, filters, baluns, tunable devices & switches; high power & high efficiency RF/Microwave power amplifiers – design, technology & high frequency characterization; module integration in semiconductor, organic, & glass substrates – System in Package, System on Chip, Package on Package, & 3D integration; shielding, isolation, nanoscale structures for enhancing performance

### **RFID**

Design & development of miniature interconnects for HF, UHF & WiFi RFIDs; assembly & matching with antennas & passives; universal RFID modules; RFID enabled wireless sensor nodes; power scavengers & nanomaterials for autonomous RFID's; flexible/conformal materials & printing technologies; reliability & environmental issues; metal-mounted RFID assembly & integration; multiband RFID's; integration of RFID's & batteries; RFID reader packaging; "rugged" RFID packages for space & extreme environments

### **RF MEMS & Sensors**

RFID, RF MEMS, MEMS, MEMS packaging; MEMS/NEMS-enabled sensors, nanotechnology-based sensors, MEMS-based power scavenging; low-cost "Smart House" & "Smart Skin" sensor integration & packaging

### **Medical Devices for Monitoring, Imaging, WPAN/WBAN & Biomedical Applications**

Design, materials, processing, manufacture, modeling & characterization; UWB & THz imaging & monitoring devices; technology for integrated wireless implantable/wearable electronics, including energy harvesting, ultra-low power electronics & batteries; 3D packages for ultra-miniaturization; biocompatibility, BioMEMS & microfluidic packaging

### **Flexible & Printed Electronics**

Printing electronics technologies up to mmW frequencies; 3D printed RF electronics modules; low cost substrates; flexible RF modules, interconnects & adhesives; integration with wearable/implantable wireless personal networks, smart fabrics; inkjet- & gravure-printed RF components; environmentally-friendly RF substrates, antennas & passives

### **Discrete and Embedded Electronic Components, Materials, Processing, Reliability, & Manufacturing**

Design, materials, processes, & reliability considerations for discrete passive components: resistors, capacitors, inductors, & passive networks, including through silicon vias (TSV), wafer level RDL, nano materials & processes

### **SUBMISSIONS:**

Please submit abstracts using the ECTC web site: [www.ectc.net](http://www.ectc.net) by October 15, 2010. Abstracts must comply with the guidelines outlined at the website. To have your paper considered for inclusion in the "Electronic Components & RF" focused sessions

### **YOU MUST SELECT**

**"Electronic Components & RF" committee as your PRIMARY subcommittee preference** when you submit your abstract at the ECTC web site. Again, to have your paper considered, please do the following:

STEP #1: Submit abstract through the ECTC web site ([www.ectc.net](http://www.ectc.net)) and select **"Electronic Components & RF" as PRIMARY subcommittee preference**

STEP #2: Email abstract copy and author's email & contact information to:  
Craig Gaw at [c.a.gaw@ieee.org](mailto:c.a.gaw@ieee.org) & Rockwell Hsu at [r.hsu@wilinx.com](mailto:r.hsu@wilinx.com)



\*\*\*\*\*

2011 IEEE Radio Wireless Week  
Hotel Registration Deadline: Dec. 15, 2010 Conference Registration Deadline: Dec.

30, 2010 Visit us at <http://www.radiowirelessweek.org/>

\*\*\*\*\*

Dear Colleague,

We would like to invite you to join us for an excellent program in wireless technologies featuring:

- The Radio and Wireless Symposium (RWS)
- The IEEE Topical Meeting on Silicon Monolithic Integrated Circuits in RF Systems (SiRF)

The Radio Wireless Week is premiering this year three new topical conferences:

- The IEEE Topical Conference on RF/Microwave Power Amplifiers (PAWR): The first archival digest dedicated to the topic of power amplifiers.
- The IEEE Topical Conference on Biomedical Wireless Technologies, Networks & Sensing Systems (BioWireleSS): targeting one of the most exciting and rapidly growing areas of wireless medical devices.
- The IEEE Topical conference on Wireless Sensors and Sensor Networks (WiSNet): utilizing technologies from the RWS, PAWR, and SiRF to develop new applications related to BioWireleSS, consumer, commercial, and military sensor markets.

This exciting week also features workshops on:

- Inter- and Intra-vehicle Wireless Communications & Networking
- Wireless Communications for Smart Grid
- Wireless Biomedical Applications
- Zigbee Applications It hosts panel sessions on
- Ultra-Wideband (UWB) Technology: Past, Present, and Future
- Cell Phone Tower Myths and Misconceptions

And distinguished lecture talks on:

- Inkjet-Printed Paper/Polymer-Based "Green" RFID and Wireless Sensor Nodes: The Final Step to Bridge Cognitive Intelligence, Nanotechnology and RF? by Dr. Manos Tentzeris
- Relay Node Placement in Wireless Sensor Networks by Prof. Guoliang (Larry) Xue
- Let Swarm of Bees Optimize Your Future Communication Antennas by Prof. Y. Rahmat-Samii

Visit us at: <http://www.radiowireless.org/> **Hotel Registration Deadline: Dec. 15, 2010**  
**Conference Registration Deadline: Dec. 30, 2010**

Start the new year with a week of Wireless technologies catering to every taste.

See you in Phoenix!

Best regards,

George E. Ponchak, NASA Glenn Research Center, General Chair, RWS 2011





# 2011 IEEE PES Power Systems Conference & Exhibition



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

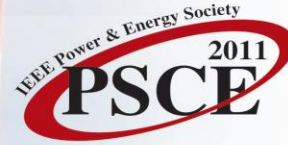
## 2011 IEEE PES

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.psceexpo.com](http://www.psceexpo.com)



## Life Member Affinity Group

### 2010 December Technical Meeting

**Topic: Interaction between the existing infrastructure and a future smart grid with distributed generation**

**Summary:** A smart distribution micro-grid has been designed in a residential area in Chandler. The structure and components of the designed micro grid will be described. The proposed distributed generation includes residential PV, fuel cells and micro-gas turbines. The amount of distributed generation that the existing infrastructure (electric, water pipes, and gas lines) can support is evaluated and limitations are determined. Finally the cost of energy (\$/kWh) generated by residential PV, fuel cell and micro-turbine is calculated and compared with the cost of energy purchased from local utility.

**When:** Tuesday, December 7, 2010, 11:00am – 1:00pm

**Where:** SRP's **PERA Club** Bighorn Room,  
1 East Continental Drive, Tempe, AZ  
West of 68th St., ½ mile south of McDowell Road

Click this map link to SRP PERA Club:

<http://insidesrp/pera/facilities/PERAstreetmap.pdf>

**RSVP:** Please respond to Section Secretary, Ronald Sprague by email:  
[rsprague@q.com](mailto:rsprague@q.com)

**Speaker:** Dr George G Karady (SM'70, F'78, LF 98), Power system chair professor at ASU



**Biography:** George G Karady received his MSEE and Doctor of Engineering degree in electrical engineering from Technical University of Budapest. At Arizona State University he teaches and performs research in Power Electronics, High Voltage Techniques and Electric Power Systems. Previously, he was with EBASCO Services as Chief Consulting Electrical Engineer, Electrical Systems Manager and Computer Technology Chief Engineer. Other positions include Electrical Task supervisor, Tokomak Fusion Test reactor project, Princeton Program Manager Hydro Quebec Institute of Research and as Deputy Department Head, Technology University of Budapest. Karady is a registered professional engineer in New York, New Jersey and Quebec. He is the author of more than 300 technical papers. His IEEE include IEEE chairman of Chapter/ Membership's Award Committee, and Education committee's Award Subcommittee. Dr. Karady CIGRE activities include Vice President and Secretary Treasurer US National Committee.

## ***About IEEE Phoenix Section Life Member Affinity Group:***

The IEEE Phoenix Section Life Member 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](http://www.ieee.org/web/volunteers/mga/home/life_members_committee/index.html)

## ***Activities***

Annual technical meetings scheduled in February, May, October, and December. Elections are held at the December meeting.

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

## ***Elections***

The annual election of officers will be held at this December 7 meeting. Please send your nominations or questions to any officer including our secretary Barry Cummings at [Barry.Cummings@srpnet.com](mailto:Barry.Cummings@srpnet.com). Self nominations are perfectly acceptable.

## ***Officers***

Chair	C. Bruce Johnson	<a href="mailto:cbj@johnsonscientificgroup.com">cbj@johnsonscientificgroup.com</a>
Vice Chair	Michel Ebertin	<a href="mailto:Michel@ebertin.net">Michel@ebertin.net</a>
Secretary	A. Barry Cummings	<a href="mailto:Barry.Cummings@srpnet.com">Barry.Cummings@srpnet.com</a>
Treasurer	Leslie Daviet II	<a href="mailto:lesdaviatii@cs.com">lesdaviatii@cs.com</a>
Program Chair	Ronald L. Sprague, P.E.	<a href="mailto:rlsprague@q.com">rlsprague@q.com</a>
Past Chair	Professor George Karady	<a href="mailto:karady@asu.edu">karady@asu.edu</a>



## **IEEE-USA Government Fellowships: Linking Science, Technology & Engineering Professionals with Government**

(<http://ieeusa.org/policy/govfel/default.asp>)

Each year, IEEE-USA sponsors three government fellowships for qualified IEEE members. The fellows - chosen by the IEEE-USA Government Fellows Committee and confirmed by the Board - spend a year in Washington serving as advisers to the U.S. Congress and to key U.S. Department of State decision-makers. Known as either a Congressional Fellowship or an Engineering & Diplomacy Fellowship, this program links science, technology and engineering professionals with government, and provides a mechanism for IEEE's U.S. members to learn firsthand about the public policy process while imparting their knowledge and experience to policymakers.

2012 Application materials are now available online. **The deadline is March 18, 2011**

Application Kit for 2012 Congressional Fellowship

[http://ieeusa.org/policy/govfel/documents/cfappkit12\\_000.doc](http://ieeusa.org/policy/govfel/documents/cfappkit12_000.doc)

Application Kit for 2012 Engineering & Diplomacy (State Department) Fellowship

[http://ieeusa.org/policy/govfel/documents/Stateappkit12\\_000.doc](http://ieeusa.org/policy/govfel/documents/Stateappkit12_000.doc)

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## **Washington Internships for Students of Engineering (WISE)**

(<http://wise-intern.org/>)

Each year, outstanding engineering students are selected to spend nine weeks in Washington, D.C., learning about the public policy process, including how government officials make decisions on complex technological issues and how engineers can contribute to legislative and regulatory public policy decisions. The WISE Program is ranked as one of the best Internship opportunities in the U.S. by the Princeton Review.

Applications are on-line at:

<http://wise-intern.org/application/index.html>.

**The deadline for Summer 2011 is December 31, 2010.**



## Phoenix Chapter of the IEEE Computer Society

December, 2010

### News

- Chapter annual elections were held at the chapter meeting on November 3<sup>rd</sup>. Congratulations to the chapter officers for 2011:
  - Chair: Jerry Crow
  - Vice-chair: Brad Morantz
  - Secretary/webmaster: Audrey Skidmore
  - Treasurer: Diane Smith
- The December chapter meeting was held on December 1<sup>st</sup> at ASU Skysong. The presenter was Mark Skidmore, VP of Engineering at American Solar. He spoke on issues related to the installation of solar power.

### Future Events

- All meetings start at 6:00 pm with networking and light refreshments in the courtyard followed by the presentation at 7:00 pm. DeVry University is located at 2149 W Dunlap Avenue, Phoenix.
- January 5, 2011 – Chapter meeting at DeVry University, Phoenix Campus; Speaker: Jerry Crow, “**Cryptography, Part 2**”
- February 2, 2011 – Chapter meeting at DeVry University, Phoenix Campus; Speaker: **TBD**
- Spring 2011 – ½-day workshop; topic: TBD (suggestions welcome)

Visit the CS Chapter website for the latest information:

<http://ewh.ieee.org/r6/phoenix/compsociety/>

If you would like to suggest a topic and/or speaker for any of our 2011 meetings, please contact one of the chapter officers:

Jerry Crow ([jerry.crow@computer.org](mailto:jerry.crow@computer.org))  
Brad Morantz ([bradscientist@ieee.org](mailto:bradscientist@ieee.org))  
Audrey Skidmore ([askidmore@computer.org](mailto:askidmore@computer.org))  
Diane Smith ([diane@web-oasis.com](mailto:diane@web-oasis.com))



INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS

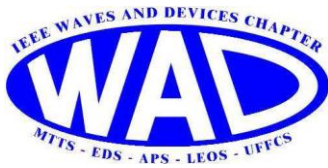
**WAVES AND DEVICES  
PHOENIX CHAPTER**

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

*2011 Calendar*



<b>2010 Waves &amp; Devices Scheduled Technical Meetings</b>					
<b>Date</b>	<b>Time</b>	<b>Location</b>	<b>Topic/ Title</b>	<b>Speaker</b>	<b>Affiliation</b>
Postponed until further notice	6:00 PM	Agilent, Chandler	Radio Communications Systems on Next Generation Manned Space Vehicle	Mr. William Eger	General Dynamics
Monday, Jan 17, 2011	5:00 PM	Freescale Semiconductor	1) Electromagnetic Band Gap (EBG) Structures in Antenna Engineering: From Fundamentals to Recent Advances	1) Dr. Yahya Rahmat-Samii	1) UCLA
			2) Green! RFID and Wireless Sensor Nodes: The Final Step to Bridge Cognitive Intelligence, Nanotechnology and RF?	2) Dr. Manos Tentzeris	2) Georgia Tech



**INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS**  
**WAVES AND DEVICES - Phoenix Chapter**  
"Microwave Theory & Techniques" and "Antennas & Propagation"  
Societies Meeting

**Meeting Free & Open to Non-IEEE Members**

**5 to 7PM, Monday, January 17, 2011**

**Freescale Semiconductor, 2100 E. Elliott Road, Tempe, AZ**  
**Group Conference Room (Main Lobby)**

**IEEE Distinguished Lecturer Double Header:**

**1) Electromagnetic Band Gap (EBG) Structures in Antenna Engineering: From Fundamentals to Recent Advances**

**Dr. Yahya Rahmat-Samii, UCLA (DL with APS)**

**Abstract 1**

Periodic structures are abundant in nature, which have fascinated artists and scientists like. When they interact with electromagnetic waves, exciting phenomena appear and amazing features result. Applications are seen in filter designs, gratings, frequency selective surfaces (FSS), photonic crystals and photonic band-gaps (PBG), etc. We classify them under the broad terminology of "Electromagnetic Band Gap (EBG)" structures. EBG structures have provided promising paradigm for novel antenna designs. Due to the complexity of the EBG structures, it is usually difficult to characterize them through purely analytical methods. Instead, full wave simulators that are based on advanced numerical methods have been used in EBG analysis. Analysis tools have been integrated with modern optimization techniques such as genetic algorithms and particle swarm optimization to synthesis unique EBG structures. Utilizing several representative antenna examples it will be demonstrated that proper utilizations of EBG structures could enhance the performance of low profile antennas.

**Link to biography:** <http://www.ee.ucla.edu/faculty-rahmat-samii.htm>

**2) Green RFID and Wireless Sensor Nodes: The Final Step to Bridge Cognitive Intelligence, Nanotechnology and RF?**

**Dr. Manos Tentzeris, Georgia Tech (DL with MTTs)**

**Abstract 2**

In this talk, inkjet-printed flexible antennas, RF electronics and sensors fabricated on paper and other polymer (e.g. LCP) substrates are introduced as a system-level solution for ultra-low-cost mass production of UHF Radio Frequency Identification (RFID) Tags and Wireless Sensor Nodes (WSN) in an approach that could be easily extended to other microwave and wireless applications. The talk will cover examples from UHF up to the millimeter-wave frequency ranges.

**Link to biography:** [http://www.ece.gatech.edu/faculty-staff/fac\\_profiles/bio.php?id=103](http://www.ece.gatech.edu/faculty-staff/fac_profiles/bio.php?id=103)

**Date:** Monday, Jan. 17, 2011

**Time:** 5:00 PM Presentations

**Pizza will be served following the Seminar (approximately 7:00PM)**

**Location:** Group Conference Room, Freescale Semiconductor, 2100 E. Elliott Road, Tempe, Arizona  
Check in at Main Lobby for escort to conference room

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

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



## Become an IEEE Senior Member

If you have 10 years of experience in electrical engineering (including any time in graduate school) you may qualify for elevation to IEEE Senior Member!

Apply on-line at the following link:

[http://www.ieee.org/membership\\_services/membership/senior/senior\\_application.html](http://www.ieee.org/membership_services/membership/senior/senior_application.html)

Need help with reference letters or a nomination? Contact any Section officer (see page 1 for contact information).

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## IEEE Phoenix Section Volunteer Positions

The Section Executive Committee is currently looking for volunteers for the positions of Membership, Conferences, and Publicity Chairs! If interested please contact Section Chair Henning Braunisch ([braunisch@ieee.org](mailto:braunisch@ieee.org)) for more information.

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## Phoenix Section 2011 Executive Committee Officer Candidates

Dear Section Members:

The membership in attendance at the Nov 2<sup>nd</sup> meeting elected the following Section officer positions in 2011:

Chair : Jim Hudson  
Vice Chair : Ralph Hogan  
Secretary : Charles Weitzel  
Treasurer : Russ Kinner

These officers will take their positions January 1, 2011.

Regards,

Bruce Ladewig – Chair, Nominating Committee  
[bruceladewig@ieee.org](mailto:bruceladewig@ieee.org)





## Upcoming IEEE Conferences in Phoenix

The ***IEEE Signal Processing Society*** is sponsoring the ***14th DSP & 6th SPE Workshop*** January 4-7, 2011 at the Enchantment Resort, Sedona, Arizona. For more information, please click on the following link:

<http://www.dspe2011.org/>

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The ***IEEE Communications Society and IEEE Microwave Theory and Techniques Society*** will sponsor the conference entitled ***2011 IEEE Radio and Wireless Symposium (RWS) along with Radio Wireless Week***. This conference will be held at 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](mailto:george.ponchak@ieee.org)

The above Conference is 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.

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The ***IEEE Power & Energy Society*** will sponsor the conference entitled ***2011 Power Systems Conference & Exhibition (PSCE)***. This conference will be held in the Phoenix Convention Center in Phoenix, Arizona, USA, 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, 6–8 PM.  
- Except for July & August

All interested IEEE members are welcome to attend.

**Contact:** Dr. Henning Braunisch, Phoenix Section Chair  
[braunisch@ieee.org](mailto:braunisch@ieee.org)

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## 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](mailto:r.kinner@ieee.org)

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## Phoenix Section LinkedIn Group

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.