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  r.bonda@ieee.org

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  Henning Braunisch, 480-552-0844
  braunisch@ieee.org

Treasurer
  Jim Hudson
  Jim.Hudson@srpnet.com

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  samk@broadcom.com

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    Mike.Poggie@ieee.org
  Waves & Devices Society
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  Life Members
    Rao Thallam
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This Issue of the Valley Megaphone features:

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  • Executive Committee (page 1)
  • Chapters and Branches (page 1)
  • Student Branches (page 2)

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  • EMC Society Meeting on Nov 3 (page 3)
  • Computer Society Announcements (page 4 & 5)
  • IEEE Phoenix Section All Day Workshop on Nov 14 (page 6)
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IEEE Phoenix Section Executive Committee meeting minutes can be found at:
http://www.ieee.org/phoenix

Please send announcements for Valley Megaphone to Sam Karikalan at samk@broadcom.com

The Valley Megaphone is the newsletter of the Phoenix Section of the Institute of Electrical and Electronics Engineers. It is published monthly and reaches about 4000 members. Submit articles, advertisements, and announcements to Sam Karikalan at the above email address. Deadline for announcements and advertisements is the third Friday of the month prior to publication. Advertising Rates: Full page: $200, 3/4page: $125, ½ page: $75, ¼ page: $50, 1/4 page: $25.

Change of address/email? Call toll free 1-800-678-IEEE. Please allow 6-8 weeks. Section Web Page is: http://www.ieee.org/phoenix
Call for IEEE Fellow Nominations

Nominations are being accepted for the IEEE Fellows class of 2010. The rank of IEEE Fellow is the institute’s highest member grade, bestowed on an IEEE Senior Member who has had an extraordinary record of accomplishments in any of the IEEE fields of interest. The deadline for nominations is 1 March 2009. Senior Members can be nominated in one of four categories: application engineer/practitioner, research engineer/scientist, educator, or technical leader.

The Fellows Web pages (http://www.ieee.org/fellows) contain information regarding the history of the IEEE Fellows program, the nomination process, access to the Fellows Nomination Kit, lists of Fellows who are eligible to be references and more about the Fellow program.

IEEE – EDS Masters/Ph.D Student Fellowship

The IEEE Electron Devices Society has established the Masters and Ph.D. Student Fellowship Programs to promote, recognize, and support advanced degree study and research within the Electron Device Society's fields of interest. The application deadline is May 15, 2009. Please contact Chuck Weitzel, the Chair of the IEEE Phoenix – Waves Devices Chapter, at E-mail: Chuck.Weitzel@freescale.com or Tel. 480-413-5906, for more details.
The next meeting of the IEEE – Electromagnetic Compatibility (EMC) Society – Phoenix Chapter will be held, as follows:

**Date:** Monday, November 3, 2008  
**Place:** Garcia’s Mexican Restaurant at Embassy Suites Hotel  
**Address:** 4400 South Rural Road, Tempe, Arizona  
**Address:** Just South of U.S. 60 on West side of Rural Rd.  
**Time:** 5:30PM Social, 6PM Dinner (order off the menu), 7PM Meeting

**Title:** EMC in Power Electronics

**Speaker:** Daryl Gerke of Kimmel Gerke Associates

**Abstract:** Come join us as Daryl Gerke of Kimmel Gerke Associates shares some insights on EMC in power electronics. You will hear some tips and techniques on transient protection, power filters, and RF hardening. He will also discuss some special problems, such as parasitic coupling and high frequency emissions in power supplies.

**About the Speaker:** Daryl Gerke, PE, is a partner with Kimmel Gerke Associates, Ltd., an engineering consulting and training firm that specializes in EMI/EMC issues. Daryl has a BSEE from the University of Nebraska. He is a Registered Professional Engineer (PE), a NARTE Certified EMC Engineer, and a Senior Member of the IEEE. Daryl has been professionally involved with EMC since 1970, and has been a full time EMC consulting engineer since 1987. He lives in Mesa, AZ.

**Reservations:** To help us get an accurate headcount, please send an email to Harry Gaul (harry.gaul@gdc4s.com). There is no charge for meetings, but you pay for your own meal and drinks. Since we order off the menu, we do not need an exact number, so if you decide at the last minute, please come anyway. You don’t need to be an IEEE or EMC Society member to attend -- all are welcome.

**Special Notice to IEEE Student Members:** Present your IEEE Student Member card at the meeting and get your meal for free including drinks (except for alcohol beverages).

For more details, pls contact the EMC Society Chairperson, Harry Gaul at Harry.Gaul@gdc4s.com
Phoenix Chapter of the IEEE Computer Society
*******************************************************************************
Annual Elections will be held at the November 5, 2008 meeting!!
If you want to volunteer for one of the current officer positions, please
contact Cesar Vasquez-Carrera (see web site contacts page) by November
1 to get put on the ballet.

November 5 meeting

Chris Colby from Dell on Advances in Virtualization

Location: DeVry University, 2149 West Dunlap Ave, Phoenix, AZ  85021
(1 mile east of I-17 on Dunlap, SE corner of 22nd Ave and Dunlap).
Networking will be in the Courtyard (6-7PM with light meal), presentation at 7PM.
Free, everyone is welcome. Please tell others about this meeting.

Upcoming Meetings

• November 5, 2008 - Virtualization, Chris Colby of Dell
• December 3, 2008 - Inference Engines for Consumer Electronics, Dr. Keshu Zhang,
  Motorola Applied Research & Technology Center
• January 14, 2009 - Software Quality Assurance, Bob Fowler and Oris Friesen *Note
  Alternate Date Due To Holiday*
• February 4, 2009 - Cognitive Ubiquitous Computing, Prof. Panchananthan of ASU,
  *Southeast Valley location TBA later*
• March 2009 - Annual Picnic, Time and Date TBA
• April 1, 2009 - Chat Localization: Developing Applications for 26 Different Languages,
  Highland Mary Mountain of Intel, *Southeast Valley location TBA later*
• May 4, 2009 - TBA

Would you like to be a speaker at a future meeting? We are always looking for interesting
speakers to cover computer related topics. Contact joy.shetler@computer.org OR
Jon.Candelaria@motorola.com for more information on becoming a speaker today.
Phoenix Chapter of the IEEE Computer Society

***********************************************************************

We’ve added several new features to our website:
http://ewh.ieee.org/r6/phoenix/compsociety/
including information on the following topics such as:

• Jobs – New web page for positions available around the Phoenix area.
• News - lists other events around the Phoenix area
• Contacts – lists officers and other volunteers
• Meetings – descriptions of upcoming meeting and links to archives for previous meeting materials (in case you missed a meeting)

LinkedIn Update

LinkedIn has added a new discussion forum feature for groups as well as the following features for individual members:

Work collaboratively with your network.
• Box on LinkedIn: Share files and collaborate with your network.
• Huddle on LinkedIn: Private workspaces to collaborate with your network on projects.

Share information and keep up to date with your network.
• Amazon on LinkedIn: Discover what your network is reading.
• TripIt on LinkedIn: See where your network is traveling.
• SixApart on LinkedIn: Stay up to date with your network's latest blog posts.

Present yourself and your work in new ways.
• Google Docs on LinkedIn: Embed a presentation on your profile.
• SlideShare on LinkedIn: Share, view and comment on presentations from your network.
• WordPress on LinkedIn: Promote your blog and latest posts.

Gain key insights that will make you more effective.
• Company Buzz by LinkedIn: See what people are saying about your company.

If you are interested in joining the group, please send an email to Louis Rayes or Joy Shetler (email addresses are listed on the Computer Society website).

For more information about LinkedIn, please check out the description on Wikipedia: http://en.wikipedia.org/wiki/LinkedIn or the LinkedIn Website: http://www.linkedin.com.
ABSTRACT

The continued scaling of microelectronics for mainstream applications, such as computing and communications, has been enabled by newly developed materials, tools, and techniques. This development of new capabilities has spawned novel applications and market opportunities. This year’s one-day Workshop focuses on the topics of nanotechnology, bioelectronics, and energy. Invited experts from industry, academia, research labs, and consortia will share their vision of technical challenges and opportunities in these highly relevant areas.

We are pleased to present keynote addresses for each of our three topical sessions. Jerry Halverson, President of the U.S. Fuel Cell Council and Manager of Energy System Technologies at the Motorola Mobile Devices Technology Office, will open the energy session with the keynote "Emerging Energy Technologies for Mobile Devices." The bioelectronics session features an opening keynote by Dr. Samanta Dasgupta titled "The Impact of Micro and Nano Scale Devices in Chemical and Biological Applications." Dr. Dasgupta is a Device Engineering Manager at GE Global Research. Finally, the nanoelectronics session keynote will be delivered by Dr. Michael Halls, Co-Director of the Kavli Nanoscience Institute (KNI) and Professor of Physics, Applied Physics, and Biophysics at the California Institute of Technology. Dr. Halls’ presentation is titled "Nanosystems: U.S. Possibilities, Progress, and Projections."

In addition, this year we feature our first poster session on the broader Workshop topic of emerging device and packaging technologies. Poster presentations will cover a variety of topics from 60 GHz broadband beam-forming arrays and MEMS acoustic devices to biowiring and bioimplantation.

AGENDA

7:00 AM  Registration and Continental Breakfast
8:00 AM  Workshop Welcome
Dr. Vass Adal, Workshop Chairman, IEEE Senior Member; Program Manager, Intel Corporation
8:15 AM  Energy Session
8:20 AM  Keynote: Emerging Energy Technologies for Mobile Devices
Jerry Halverson, President of the U.S. Fuel Cell Council; Manager, Energy System Technologies, Motorola - Mobile Devices Technology Office
8:50 AM  Photovoltaics Have Overrun the Silicon Industry
Lane Greene, Founder and CEO, ETA Engineering
9:20 AM  Energy Harvesting for Microsystems
Dr. Hau-Wen Hsu, Research Fellow, Dept. of Electrical Engineering, University of Michigan
9:50 AM  Break and Poster Session
10:20 AM  Renewable Energies Landscape and Challenges
Chrio Halder, Senior Engineer, Sustainability Initiatives and Technologies, Salt River Project
10:50 AM  Bioelectronics Session
10:55 AM  Keynote: Impact of Micro and Nano Scale Devices in Chemical and Biological Applications
Dr. Samanta Dasgupta, Device Engineering Manager, GE Global Research
11:25 AM  A Probe-less Miniaturized Protein Sensor
Dr. Jameel Chae, Assistant Professor, Dept. of Electrical Engineering, ASU
11:55 AM  Lunch and Poster Session
1:25 PM  Challenges in Bioelectronic Devices and Packaging
Calista Hsu, Director of Biomedical Engineering, Digital Health Group, Intel Corporation
1:55 PM  Advances in Design, Processing and Packaging of Emerging Devices for Molecular Medicine
Dr. Frederic Zanhauser, Professor, School of Materials and Dept. of Electrical Engineering; Director, Center for Applied Nanoscience, Stanford Institute, Arizona State University
2:25 PM  Break and Poster Session
2:55 PM  Nanotechnology Session
3:00 PM  Keynote: Nanosystems VLSI: Possibilities, Progress, and Projections
Dr. Michael Halls, Co-Director, Kavli Nanoscience Institute (KNI), Professor of Physics, Applied Physics, and Biophysics, California Institute of Technology
3:30 PM  Nanopackaging: Nanotechnologies and Electronic Packaging
Dr. James Morris, IEEE Fellow and Distinguished Lecturer; Professor, Dept. of Electrical and Computer Engineering, Portland State University
4:00 PM  Computational Challenges for Reliability Assessment of Next-Generation Micro and Nano Systems
Dr. Abhijit Dasgupta, Professor, Dept. of Mechanical Engineering, University of Maryland
4:30 PM  The Making of the Gate MOSFET
Dr. Matthias Rossbach, IEEE Senior Member; Visiting Professor, UCSD

COMMITTEE MEMBERS

Workshop Chair
Dr. Vass Adal
vadal@ieee.org
(480) 854-0300

Workshop Co-Chair
Dr. Charles E. Weisel
weisel@winlab.rutgers.edu
(609) 413-0305

Technical Program Committee
Chair: Mike Miller
Co-chair: Deborah Mahk
Vendor Committee
Chair: Steve Reed
Co-chair: Dr. Rashaunda Henderson
Electronic Media Committee
Chair: Dr. Qi Gu

For additional information and vendor registration
www.ief.org/phoenix

Online Registration

IEEE Phoenix Valley Megaphone November 2008

Components, Packaging and Manufacturing Technology Society Chapter
& Waves and Devices Chapter

Friday, November 14th, 2008
7:00 AM - 5:00 PM
ASU Memorial Union (Arizona Room)
Arizona State University, Tempe, Arizona 85287
“SMART ANTENNA SYSTEMS”
An electromagnetics exact approach
Nicholas E. Buris
Motorola Inc., Schaumburg, Illinois

Abstract
The ultimate objective of this talk is to propose research and development activities toward the achievement of the more advanced electromagnetic design capabilities required to address future industrial and consumer electronics products, particularly wireless products.

An electromagnetics exact formulation from baseband-to-baseband of a Smart Antenna System is described. The formulation consists of full wave analyses of the antenna arrays involved on both sides of the link and a plane wave decomposition for the propagation environment. Calibration and Channel estimation algorithms are described for Time Division Duplex systems, such as WiMAX. The state of the art in designing antennas for terminals and for base stations is outlined. Some of the peculiarities of MIMO antenna performance are described, especially as they relate to the propagation environments that they operate in. Examples of actual product designs for WiMAX and IEEE 802.11n are given. In Smart Antenna systems, the multiple antennas are used to provide additional degrees of freedom and optimize advanced communications systems. MIMO systems require cross-layer design for global performance optimization. System performance metrics, such as capacity and throughput under adaptive modulation and coding schemes, are discussed as they are more relevant than traditional antenna metrics.

Finally, the talk ends with some recommendations on research topics to further the state of the art.

Biography
Nick Buris received the diploma of Electrical Engineering in 1982 from the National Technical University of Athens, Greece and the Ph.D. in EE from the North Carolina State University, in 1986. In 1986, he was a visiting professor at NCSU working on space reflector antennas for NASA. In 1987 he joined the faculty of the ECE dept. at U Mass, Amherst. His research work there focused on microwave magnetics, phased arrays printed on ferrite substrates and broadband antennas. In the summer of 1990 he was a faculty fellow at the NASA Langley Research Center working on calibration techniques for dielectric measurements and an ionization (plasma) sensor for an experimental reentry spacecraft. In 1992 he joined the Applied Technology organization of Motorola's Paging Product Group and in 1995 he moved to Corporate Research to start an advanced modeling effort. At Motorola he has worked on several projects from product design to measurement systems and the development of proprietary software tools for electromagnetic design. He currently manages the Microwave Technologies Research Lab within Motorola Labs in Schaumburg, IL. Recent activities of the group include 60GHz communications systems design, modeling and measurements of complex electromagnetic problems, RF Propagation, Smart Antennas/MIMO, RFID systems as well as TIA standards work on antennas and RF exposure.

Date: November 13, 2008
Location: Arizona State University, Goldwater Ctr (GWC), Rm 487.
Time: 4:30-5:30 PM Presentation
Pizza will be served following the Seminar

For more information, please call
Chuck Weitzel (Chapter Chair) at (480) 413-5906  chuck.weitzel@freescale.com
Steve Rockwell (Chapter Vice-Chair) at (480) 413-5235  s.rockwell@motorola.com
Introduction to Large-Signal Modeling of Compound Semiconductor Transistors

Walter R. Curtice, Ph. D.
W.R. Curtice Consulting
Washington Crossing, PA
walter@curtice.org

Abstract

Very few installed models in circuit simulators have the capability to accurately model the characteristics of transistor power amplifiers for modern applications. This presentation will review the model types and describe some specific “compact models” in use today. We will discuss some important requirements of models and show the necessity of having specific features in the models for accurate simulation of HEMT and bipolar amplifiers. For example, both types of devices require accurate modeling of the effects of temperature, and HEMTs, in particular need good modeling of the effects of traps. Specific examples of the modeling of GaN HEMT and GaAs HBTs will be shown.

Biography

Walter R. Curtice received his BEE (with Distinction), MS, and Ph D degrees from Cornell University, Ithaca, New York. He joined the Raytheon Company for five years and then spent five years as an Associate Professor at the University of Michigan at Ann Arbor. Dr. Curtice then joined RCA Laboratories, Princeton, New Jersey, as a Member of the Technical Staff where he developed various models for GaAs field-effect transistors, including several circuit models that are widely used in SPICE and harmonic-balance simulators. Dr. Curtice joined Microwave Semiconductor Corporation, Somerset, New Jersey, as manager of Computer-Aided Design and Modeling for two years and then founded W. R. Curtice Consulting.

He has written over 90 technical papers, has 11 U.S. patents, and was made a Fellow of the IEEE in 1988. He was Distinguished Lecturer for the Microwave Theory and Techniques Society from 1990-1992 and visited approximately twenty chapters throughout the USA. In 2003, he received the Microwave Pioneer Award of the Microwave Theory and Techniques Society.

Date: November 25, 2008
Location: Freescale Semiconductor, 2100 E. Elliot Rd., Tempe, AZ  Room TBA
Time: 4:00-5:00 PM Presentation
Pizza will be served after the Seminar

For more information, please call
Chuck Weitzel (Chapter Chair) at (480) 413-5906  chuck.weitzel@freescale.com
Steve Rockwell (Chapter Vice-Chair) at (480) 413-5235  s.rockwell@motorola.com
Power & Energy Society Announcements

November Technical Meeting

Date: Thursday, November 20, 2008

Speaker: Chris Anderson, Schweitzer Engineering Laboratories, Inc.

Topic: Synchophasors


Biography: Chris Anderson has an A.A.S. from ITT Technical Institute and is currently working on his B.S. in Electronics Engineering Technology through DeVry University.

Chris has been with Schweitzer Engineering Laboratories, Inc. (SEL) since July 1999. He spent his first three years at SEL working in product development for transmission protection products. For the next three years, Chris was an associate product engineer, supporting transmission protection in R&D. In August 2005, he became responsible for the development and support of SEL’s synchrophasor measurement technology. In February 2008, Chris transferred to the field as an integration automation engineer for the Southeastern United States, and he currently makes his home in Dothan, Alabama.

Chris has been involved with the Eastern Interconnection Phasor Project (now the North American SynchroPhasor Initiative) since 2004 and has been involved with the introduction and implementation of synchrophasor technology at utilities spanning the United States and overseas.

December Technical Meeting
No meeting will be held due to the holidays.

January Technical Meeting
Chico Hunter from Salt River Project and Tony Tewelis from Arizona Public Service Company are scheduled to give a presentation on their company’s Renewable Energy Programs. Further details will be available shortly on the PES website at http://ewh.ieee.org/soc/pes/phoenix/.
IEEE Life Members Affinity Group, Phoenix Section

Meeting Notice

The next meeting of the Life Members Affinity Group of the IEEE Phoenix Section will be held on Thursday, December 11, 2008 at SRP’s PERA Club (Big Horn Terrace Room), 1 East Continental Drive, Tempe, AZ. The new executive committee election will also be held at this meeting.

Topic: "What's in the IPCC report on Global Warming?"

Speaker: John S. Sadowsky, General Dynamics, Scottsdale

AGENDA:
11:00 AM – 11:30 Registration
11:30 – 11:45 Lunch
11:45 – 12:00 Executive Committee 2009 Election
12:00 - 1:00 PM Presentation
1:00 – 1:15 PM Question and Answer session
1:15 PM Adjourn

Cost: $8.00 per person, includes lunch

Please RSVP, by Tuesday, December 2, to the Section Secretary, Michel Ebertin (michel@ebertin.net). Please try to attend, as the Chapter has to pay for lunch for the complete number reserved. Click on this link for directions to SRP PERA Club: SRP PERA Club

ABSTRACT

The presentation has 3 parts. The first part is an overview of the IPCC (Intergovernmental Panel on Climate Change) and its history. The second part is a summary of the content of the 2007 Assessment Report from Working Group 1, which deals with climate science and prediction of future climate. The third part will cover some of the critics of Global Warming.

About the speaker:

J. S. Sadowsky is a Member of the Technical Staff at General Dynamics in Scottsdale, AZ. He has been an IEEE member for 30 years. He has a Ph.D. in Electrical Engineering, M.S. in EE, M.A. in mathematics, and B.S. degrees in mathematics and EE. His professional career has been split between industry (14 years) and academia (15 years). He has published ~30 papers in IEEE Transactions and in various mathematics journals, and has over 60 conference papers and presentation. His academic research included applications of probability theory to modern digital communications. Today he is a leading physical layer architect for the MUOS project, which is a military satellite communications system.

2008 Chapter Executive Committee
Chair    Dr. Rao Thallam    (602) 236-8064
Vice Chair Prof. George Karady    (480) 965-6569
Secretary Michel Ebertin    (480) 991-2136
Treasurer Leslie Daviet II    (602) 525-2377
Program Committee Dr. C.B. Johnson    (480) 759-2826

Election of Executive Committee for 2009

Election of the Executive committee members will be held at the Dec 11 membership meeting. If you are interested in any of the positions: Chairman, Vice Chairman, Secretary, Treasurer or Program Committee Chairman, e-mail your name, phone number, contact address, and position interested to serve, by November 15, 2008 to Chapter Secretary, Michel Ebertin. (michel@ebertin.net) Phone: (480) 991-2136.
AWARD NOMINATION INSTRUCTIONS

1. This Awards Guide lists the awards along with the selection criteria that will be implemented for selecting the award recipient.

2. Please read through this awards guide to help you in selecting the award category for nomination.

3. Complete the award nomination form given at the end of this document and submit ONLY as an email attachment to the IEEE Phoenix Section Annual Banquet Organizing Committee member responsible for the award category along with a copy to Dr. Vasu Atluri, Awards Committee Chair. Dr. Vasu Atluri’s email address is vpatluri@ieee.org and telephone number is (480) 227-8411. The list of contacts is as follows:

   For Member Category Nominations, please send the form along with supporting documents to Dr. Keith Holbert, Chair, at keith.holbert@asu.edu. He can be reached by telephone at (480) 965-8594.

   For Chapter / Society Category Nominations, please send the form along with supporting documents to Mr. Debendra Mallik, Vice-Chair, at dmallik@ieee.org. He can be reached by telephone at (480) 413-5328.

   For Non-Member Category Nominations, please send the form along with supporting documents to Dr. Henning Braunisch, Secretary, at braunisch@ieee.org. He can be reached by telephone at (480) 552-0844.

   For Corporate Category Nominations, please send the form along with supporting documents to Dr. Vasu Atluri, Awards Committee Chair, at vpatluri@ieee.org. He can be reached by telephone at (480) 554-0360.

   For Educational Category Nominations, please send the form along with supporting documents to Mr. Nick Leonardi, Student Activities Coordinator, at nleonardi@premiers2.com. He can be reached by telephone at (480) 720-1435.

4. Nominator can submit a form for self or for others. All sections of the form should be completely filled by typing in bold and capital letters. If needed, submit additional documents such as resume in support of the nomination.

5. Deadline for submission of the nomination form is Friday, December 5th, 2008. Awards Banquet Committee will review the forms and inform the selected candidates and nominators by Friday, December 19th, 2008.

If you have any additional questions, please contact Dr. Vasu Atluri, Awards Committee Chair, at (480) 227-8411 or by email at vpatluri@ieee.org.
The scope and purpose of the Section Awards program is to plan, promote and implement award and recognition programs that recognize outstanding performance in furthering the objectives and professional aims of the IEEE Phoenix Section, the IEEE and the IEEE-USA, and to stimulate others to pursue such achievements of excellence.

The Phoenix Section has established the following general award and recognition categories:

- **Member**
  - Young Engineer of the Year
  - Engineer of the Year
- **Chapter/Society**
- **Non-member**
- **Corporate**
- **Educational**
- **Special Chair**

**Award and Recognition Categories**

**A. Member:**

The Section recognizes individual members in two categories:

- **Young Engineer of the Year**
- **Engineer of the Year**

The **Young Engineer of the Year** award is offered to recognize an individual of Member Grade in the section with 10 years or less experience in the profession. Ten years include graduate degree study period. Nominations for this award may be offered by individuals, by a company or by a Society Chapter. Qualifications for the award must satisfy at least one of the following criteria:
  - Be recognized by his/her employer for important contributions to a project /company mission
  - Made important contributions to the Section/Chapter/Conference, profession or the community through leadership activities related to an event(s)
  - Publish at least one refereed technical paper
  - Hold at least one U.S. patent

The **Engineer of the Year** award is offered to recognize an individual of Member or Senior Member Grade in the section with over 10 years experience in the profession. Nominations for this award may be offered by individuals, by a company or by a Society Chapter. Qualifications for the award must satisfy at least one of the following criteria:
  - Be recognized by his/her employer for important and significant contributions to the organization projects or towards the company mission
  - Publish at least two refereed technical papers
  - Hold at least two U.S. patents
  - Made significant contributions to the community or profession

The Section also recognizes members who attain advanced member grade levels including Fellow and Senior Member. Criteria are established by the IEEE.

**Fellow**

Fellow recognizes unusual distinction in the profession and is conferred only by invitation of the Board of Directors upon a person of outstanding qualifications and experience in IEEE designated fields. It is conferred to a person who has made important individual contributions to one or more of the IEEE designated fields. The Fellow Grade is the highest membership grade which can be achieved within IEEE. Total number selected in any one year does not exceed one-tenth percent of the total voting institute membership.

**Senior Member Grade**

Senior Member Grade is the highest for which application may be made and requires experience reflecting professional maturity. Candidate should be an engineer, scientist, educator, technical executive, or originator in IEEE designated fields. Candidate should have shown significant practice for at least ten years and significant performance over a period of at least five of those years.

**B. Chapter/Society:**

The Chapter/Society may provide one award to recognize individual, team or organization using a variety of criteria including technical, professional, chapter / society contribution or other special category. Awards
should recognize specific contributions, achievements and efforts (individual or team) in the development and implementation of the criteria used for the award.

An “Outstanding Society Chapter Award” for the IEEE Phoenix Section may also be awarded each year. The Section shall solicit and qualify chapters for the Outstanding Society Chapter Award. Nominees are either provided by the Society Chapters or decided by awards committee. The Section may recognize a Society Chapter using a variety of criteria including technical, professional or other special category. Awards should recognize specific contributions, achievements, and efforts including the number of meetings, workshops, etc. consistent with membership size of the Society Chapter, in the development and implementation of the criteria used for this award. The Chapter/Society award nominations should be approved and submitted by the Chapter Chair or a Chapter Officer assigned by Chapter Chair. The assigned officer name should be informed by Chapter Chair by email in advance to both Dr. Rao Bonda, Annual Banquet Organizing Committee Member responsible for Chapter / Society Category Nominations, and to Dr. Vasu Atluri, Awards Committee Chair.

C. Non-Member:
The Section may recognize non-IEEE members for exemplary contributions (technical and/or professional) to the engineering profession through their efforts within their company, the community or for the Section.

D. Corporate:
The Section recognizes companies in two categories:
- Large Company of the Year
- Small Company of the Year

The companies are recognized for their outstanding technical and/or professional contributions in furthering the objectives and professional aims of the IEEE Phoenix Section, the IEEE, the IEEE-USA and the field of Electrical Engineering. The Technical Contributions should include significant contributions or advancements in technology or the application of technology in the electronics or electro-technology fields. The specific area of technology is not restricted and may include, but is not restricted to, design and manufacturing processes, new products or creative applications to existing technologies. The Professional Contributions include significant contributions made to further the professional goals and programs of IEEE. Companies may be recognized for specific contribution, achievements and efforts that promote the professionalism goals of the section and IEEE. Nominations may be for a variety of professionalism related areas including support of IEEE members, employee development and training initiatives, community involvement or other programs that improve the general image of the engineer or engineering profession. Companies with less than or equal to 500 employees are considered Small Companies and those with greater than 500 employees are considered Large Companies during the award selection.

E. Educational:
The Section recognizes educational institutions and educators in the following categories:
- Outstanding IEEE Student Branch
- Outstanding Pre-college Educator
- Outstanding Faculty

The Section shall solicit and qualify award candidates for the Student Branch award. Nominees are provided by the student branch, branch advisor, administrators or Society Chapters. The Section may recognize a Student Branch using a variety of criteria including technical, professional or other special category. Awards should recognize specific contributions, achievements and efforts (individual or team) in the development and implementation of the criteria used for this award.

Nominations for Outstanding Pre-college Educator and Outstanding Faculty may be submitted by any member of the Section. Awards should recognize specific contributions, achievements, programs and efforts completed by an individual who promotes technical literacy, or the technical or professional goals of the Section, the IEEE or the IEEE-USA.

The section also recognizes student scholarship winners selected during the year by a committee consisting of section officers. The criteria for selection are based on academic excellence, participation in IEEE activities, contributions to IEEE and financial need.

F. Special Chair:
The Section Chair may wish to provide up to three special awards to recognize individuals or organizations for activities that support the goals of the Section that are not specified within the above categories, such as public service. The Section Chair may solicit inputs and recommendations from the Awards Committee, Section Officers, and Members of the Section. The Section Chair may recognize IEEE or Non-IEEE members for contributions to IEEE, the engineering profession, and volunteer work. The section chair also recognizes current section officers for their contributions for advancement of the section.
### Award Nomination Form

Completely filled form should be submitted as an email attachment ONLY to the appropriate award committee member Award committee chair should be copied on the email – Award committee contact list are listed on first page

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<th>Candidate’s Name:</th>
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<th>Award Categories: (please select one)</th>
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<td>A. Member:</td>
<td>Engineer of the Year ☐</td>
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<td>B. Chapter / Society:</td>
<td>Technical ☐</td>
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<td>Chapter / Society Contribution</td>
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<td>Outstanding Society Chapter</td>
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<td>C. Non-Member:</td>
<td>Contributions to the IEEE / Engineering Profession ☐</td>
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<td>D. Corporate:</td>
<td>Large Company of the Year ☐</td>
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<td>E. Educational:</td>
<td>Outstanding Student Branch ☐</td>
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<td>Outstanding Pre-College Educator</td>
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<td>F. Special Chair:</td>
<td>IEEE / Engineering Contributions ☐</td>
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- 14 -
Nominator's Name: ____________________________

IEEE Member: Yes ☐ No ☐ Student ☐ Member # ☐

Affiliation: Section ☐ Chapter / Society ☐ Student Branch ☐ None ☐

Affiliated Organization Name: ____________________________

Telephone Number: ____________________________ Email: ____________________________
IEEE Phoenix Section
Student Paper Contest 2009

The IEEE Student Prize Paper Contest offers the undergraduate IEEE Student member opportunities to exercise and improve both written and verbal communication skills. Throughout an engineer's career, (s)he will be constantly called upon to communicate ideas to others. Researching, writing, and presenting a paper provides a student with invaluable early experience in expressing ideas related to engineering. Since the paper contest primary function is to improve the engineering student's communicative skills, no student should be discouraged from entering the contest due to a false requirement of technical sophistication.

This undergraduate student paper contest consists of a written paper and an oral presentation. The written paper should be in the IEEE Region 6 standard, which is available at http://www.ewh.ieee.org/reg/6/MemberStudentActivities/IEEERegionalStudentPaperContestGuidelines.doc. Briefly, the type-written papers are 15 pages maximum, double-spaced with 12 pt font. The written paper, as either an MS Word or an Acrobat pdf file, should be emailed to nleonardi@ieee.org by 6 p.m. on February 13, 2009.

The oral presentations are 15 minutes plus a 5-minute question & answer period. The oral portion of the contest will be held the morning of Saturday, February 28, 2009. A computer with projector will be provided for the contestants to use, since PowerPoint slides are the recommended approach.

The local cash awards for the paper contest winners are (1) First Place – $300, (2) Second Place – $200, and (3) Third Place – $100. The five judges are IEEE members from local industries.

The top entrant from each Local Student Branch (ASU Main, ASU Polytechnic, DeVry, Embry-Riddle, and NAU) is eligible to present their paper to the IEEE Region 6 Southwest Area contest to be held April 2009.

If you have any questions, please contact:

Mr. Nick Leonardi
IEEE Phoenix Section
Student Activities Chair
480-736-1970 x 23
nleonardi@ieee.org
IEEE PHOENIX SECTION
SCHOLARSHIPS

Applications Due: December 22, 2008
Awardees Announced: January 2009

The Institute of Electrical & Electronics Engineers

IEEE Student Member Scholarships

• For full-time undergraduates who are members of IEEE: approved majors are Electrical Engineering, Computer Systems Engineering, Electrical Engineering Technology, Computer Engineering Technology, or Computer Science
• Must attend a university in the Phoenix Section during 2008-2009 (i.e., ASU, ASU Polytechnique, DeVry, Embry-Riddle, or NAU)

Scholarship Application Requirement

• Application form (in the next three pages) with general information and qualifications including:
  o financial aid statement, and
  o one-page personal statement of attainments, interests and goals
• Official transcripts of all college work
• Recommendation letters (optional, but helpful to the selection committee)

For further information and to submit applications please contact:
  Mr. Nick Leonardi
  IEEE Phoenix Section
  Student Activities Chair
  480-736-1970 x 23
  nleonardi@ieee.org
IEEE PHOENIX SECTION
SCHOLARSHIP APPLICATION
(Due: December 22, 2008)

Applicant IEEE Member No. _______________________

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| Telephone No.              | (__________________________) |
| E-mail                    | ____________________________ |

| Social Security No.        | ____________________________ |
|                           | Date of Birth                |
|                           | Month/Day/Year               |

Are you an Arizona resident?  
☐ Yes  ☐ No

| Present School              | ____________________________ |
|                           | GPA (and scale)              |

| Class                      | ____________________________ |
| (Fr/So/Jr/Sr)              | Academic Probation/          |
|                           | Suspension                   |
|                           | ☐ Yes  ☐ No                  |

| Name of Instructor familiar with your qualifications | ____________________________ |
| Her/His Telephone | ____________________________ |

| College Attending Next Year | ____________________________ |
| Expected Graduation Date    | ____________________________ |

| College Major               | ____________________________ |
| Specialty within Major, if any | ____________________________ |

Please complete the next two pages also (Financial Aid Statement and Personal Statement) and Attach Official Transcripts from Present School/College.
IEEE PHOENIX SECTION SCHOLARSHIP
FINANCIAL AID STATEMENT

Name______________________________________________________________

Marital Status:       Married ____       Single ____

Can anyone claim you as a dependent?       Yes ___            No ___

Number of dependents you are able to claim ________________

Who sponsors your education? Yourself ___       Other ___ (please specify)

Projected College Costs and Financial Resources (for the 2008-09 School year)

Projected Expenses

Tuition and Fees:       $ ___________________________
Books and Supplies:     $ ___________________________
Transportation (Car/Bus/Insurance)       $ ___________________________
Room & Board (Dorm/Apt/Food/Utilities/Phone)       $ ___________________________
Personal (Clothes/Insurance/Recreation)       $ ___________________________

Total Expenses:       $ ___________________________

Projected Financial Resources

Education Loans       $ ___________________________
Government Grants       $ ___________________________
Federal Benefits (GI Bill/Social Security/etc)       $ ___________________________
Scholarships       $ ___________________________
Parent and/or Spouse Support       $ ___________________________
        Employment (your job income)       $ ___________________________

Total Resources:       $ ___________________________

I certify that the information in this scholarship application is true to the best of my knowledge.

________________________________________________ ________________________
Signature                                Date
IEEE PHOENIX SECTION SCHOLARSHIP
PERSONAL STATEMENT

Name______________________________________________________________

Please provide a one-page statement summarizing your interests, academic accomplishments, school & athletic activities, community service, education and career goals, and employment history (position, company, dates).
Fundraiser for Phoenix Region Future City Competition

On Saturday, 17 January 2009, the Phoenix Region Future City Competition will kick off the year with its 8th Annual Golf Classic Tournament at the Whirlwind Golf Club. The Future City Group is composed of practicing engineers and architects involved in getting 7th and 8th grade kids interested in the future of engineering, science, and architecture. Our golf tournament is a major fundraiser for our yearly statewide competition held in Phoenix.

Last year over 130 players joined us at the Estrella Mountain Ranch Golf Club for a sold out day of golf and prizes in which over $12,000 was raised. The success of our tournament is attributed to both the sponsorships we receive and the golfers who participate. Join us as we kick off the year, and test our New Years Resolutions, playing the Devil’s Claw course at Whirlwind. Registration includes a gift, golf, lunch, beverages on the course, and the chance to win over $10,000 worth of prizes.
IEEE Mentoring Connection

IEEE is offering its members the opportunity to participate in an online program which will facilitate the matching of IEEE members for the purpose of establishing a mentoring partnership. By volunteering as a mentor, individuals use their career and life experiences to help other IEEE members in their professional development. I believe this program can be a great tool to provide our newest members of our profession guidance in their careers and provide experienced members a chance to hear first hand from the newly graduated about the latest training the next generation is receiving. This is a program for higher level members and is provided to help ease the transition out of school and into a career.

As a mentee, you lead your partnership by selecting your mentoring partner from among those who have volunteered to serve in this capacity. I ask that you review the time and effort commitment to the program to ensure a successful mentoring partnership. Participation in the program is voluntary and open to all IEEE members above the grade of Student Member.

If you are interested, please go to http://www.ieee.org/mentoring for information on the roles and responsibilities of each mentoring partner. I encourage you to take advantage of the IEEE network of technical professionals or offer your expertise and sign up for the online mentoring program today.

Who can be an IEEE Mentor?

IEEE higher-grade members (above Student Member grade) who are, but not limited to:
- Willing to give time and effort to the mentoring partnership (we suggest minimum of two hours per month)
- Able to communicate effectively with others
- Willing to share some career successes and failures
- Individuals who may be or have been executives, consultants, or in middle or upper management, or in research
- Individuals who may be or have been educators, entrepreneurs, or self-employed
- Individuals who may be or have been proven leaders offering inspiration and insight
- Individuals who may be or have been IEEE officers or volunteers
- Willing to review an orientation session to learn guidelines, tools of program and the mentee and mentor's role and responsibilities

Who can be an IEEE Mentee?

IEEE higher-grade members (above Student Member grade) who are, but not limited to:
- New professionals in their first or second job, or considering entering graduate programs
- Recent graduates entering the professional workforce for the first time
- Professional making a career move or career change
- Passionate for learning
- Willing to give time and effort to the mentoring partnership (we suggest minimum of two hours per month)
- Willing to identify and clarify their developmental goals
- Interested in learning from another professional "who has been there"
- Willing to participate in mentee orientation session to learn guidelines, and tools of program and their role and responsibilities as a mentee

This program deserves your consideration and doesn’t require a large amount of time on your part. It can provide of great assistance to the next generation of engineers.

Russ Kinner
Conferences Chair, Phoenix Section
RE-SEED

Retirees Enhancing Science Education through Experiments & Demonstrations

Overview

RE-SEED (Retirees Enhancing Science Education through Experiments and Demonstrations) is a Northeastern University program that prepares engineers, scientists, and other individuals with science backgrounds to work as volunteers, providing in-classroom support to upper elementary and middle school science teachers with teaching the physical sciences.

After completing a comprehensive free training program, participants volunteer in middle school classrooms on the average once a week for at least one year. RE-SEED began in 1991 with six volunteers. To date close to 500 RE-SEED volunteers have worked in schools in about 100 communities throughout the country offering about 500,000 hours of their time.

Nationally, 75 percent of 7th and 8th grade students are taught physical science by teachers who do not have a major or a minor in the subject (The National Science Board, Science and Engineering Indicators 2000). RE-SEED volunteers possess talent and expertise that complement those of science teachers. They bring with them a wealth of knowledge and experience that allows them to make science interesting and relevant to everyday situations.

RE-SEED volunteers work closely with the host science teachers to help them enrich and implement their school curriculum. Overall the volunteers become involved members of their schools' and even their districts' teaching team, sometimes taking part in curriculum adoption decisions.

Please contact us by email at reseed@neu.edu or phone 888-742-2424; Shelia Kirsch at Sheila.Kirsch@asu.edu and / or Deirdre Weedon, d.weedon@neu.edu, if you are interested in learning more about these training programs.
IEEE Phoenix - Calendar of Events for November 2008:

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<td>EMC-Phoenix Chapter</td>
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<td>IEEE's Teacher In-Service Program (TISP) Training Workshop!</td>
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