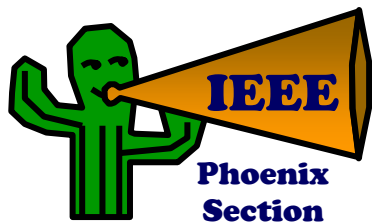


# The Valley Megaphone

Newsletter of the  
**Institute of Electrical and  
Electronics Engineers, Inc.,  
Phoenix Section**  
May 2012,  
Volume XXVI, Number 5



## Executive Committee - 2012

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### Past Chair

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[sdianesmith@computer.org](mailto:sdianesmith@computer.org)

### Conferences

Guoliang Xue  
480-965-6218  
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### Awards

Vasudeva P. Atluri  
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### Inter-Society

Mike Andrews, 480-991-1619  
[m.andrews@ieee.org](mailto:m.andrews@ieee.org)

### Webmaster

Krishna Bharath 480-552-8913  
[kbharath@ieee.org](mailto:kbharath@ieee.org)

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IEEE Phoenix Section on-line updates can be found at <http://ewh.ieee.org/r6/phoenix/> and on LinkedIn at:

<http://www.linkedin.com/groups?gid=2765918>

Please send announcements for the *Valley Megaphone* to Surinder Tuli at [surinder.tuli@gmail.com](mailto:surinder.tuli@gmail.com) and to Russ Kinner at [r.kinner@ieee.org](mailto:r.kinner@ieee.org) for inclusion in the Section Calendar.

The IEEE Banquet pictures are up, see <http://ewh.ieee.org/r6/phoenix/index.php>

## Chapters

### Signal Processing & Communications

David Frakes, 480-727-9284  
[dfrakes@asu.edu](mailto:dfrakes@asu.edu)

### Computer Society

Jerry Crow  
[jerry.crow@computer.org](mailto:jerry.crow@computer.org)

### CPMT Society

Vasudeva P. Atluri  
480-227-8411  
[vpatluri@ieee.org](mailto:vpatluri@ieee.org)

### Education Chapter

Martin Reisslein, 480-965-8593  
[reisslein@asu.edu](mailto:reisslein@asu.edu)

### EMBS Chapter

TBD

### EMC Society

Harry Gaul, 480-441-5321  
[Harry.gaul@ieee.org](mailto:Harry.gaul@ieee.org)

### GOLD

Chaturvedi Gogineni  
[cogogineni@asu.edu](mailto:cogogineni@asu.edu)

### Power & Energy Society

Scott Freymuller 480-991-9191  
[scott@youngpower.com](mailto:scott@youngpower.com)

### Solid State Circuits

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

### Teacher-In-Service

John Purchase  
[jpurchase@cox.net](mailto:jpurchase@cox.net)

### Waves & Devices Society

Steve Rockwell  
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### Life Members

Barry Cummings  
[abarrycummings@gmail.com](mailto:abarrycummings@gmail.com)

### Women In Engineering

Shamala Chickamenahalli  
[shamala.chickamenahalli@intel.com](mailto:shamala.chickamenahalli@intel.com)

## **U – News**

**(for Student Members)**

### **Updates of Student Advisors and Committee Members**

Each Student Branch noted on the right side of this page should review current information on Advisors and Student Committee Members and forward to my attention within this week, as we are reviewing contacts for reporting and activities including Student Monthly Meetings.

S. Diane Smith  
602-749-4601  
[sdianesmith@computer.org](mailto:sdianesmith@computer.org)  
Student Activities Chair

## **Student Branches**

**ASU Main, Engineering**  
Chair: Ahmet Durgun,  
480-371-7743, [adurgun@asu.edu](mailto:adurgun@asu.edu)  
Advisor: Cihan Tepedelenlioglu,  
480-965-6623, [cihan@asu.edu](mailto:cihan@asu.edu)

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

**ASU Polytechnic**  
Chair: TBD  
Advisor: TBD

**DeVry, Phoenix**  
Chair: Donovan Benedict  
[Don4ben5@gmail.com](mailto:Don4ben5@gmail.com)  
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: TBD  
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**

**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, S. Diane Smith  
[sdianesmith@computer.org](mailto:sdianesmith@computer.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)



## Signal Processing & Communications Society



Thanks to all of the attendees who have made this year's technical meetings so successful. More to come in the coming months...

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

## CPMT- Packaging and Manufacturing Technology Society



THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.



### IEEE Components, Packaging and Manufacturing Technology Society

## CPMT Phoenix Chapter

Wednesday, May 16<sup>th</sup>, 2012 at 6 PM

Fundamental of Opportunistic Wireless Communications

**Dr. Junshan Zhang**

**Prof at Arizona State University Electrical Engineering - wireless communications.**

#### ABSTRACT:

Wireless networks often operate under hostile conditions, and exhibit multi-scale stochastic dynamics. Probing/sensing is a key mechanism to estimate and track network dynamics for opportunistic wireless communications. However, incorporation of stochastic dynamics into network optimization is often challenging, because of the intrinsic tradeoffs between probing cost and scheduling.

In this talk, we start with a brief introduction to opportunistic wireless communications. Then, we examine the fundamental tradeoffs between probing and scheduling, in the context of an ad-hoc network. In such a network, channel-aware distributed scheduling involves a sequence of contention/probing and packet transmissions. Due to channel fading, the link condition corresponding to a successful contention could be either good or poor. In the latter case, further probing, although at the cost of additional delay, may lead to better channel conditions and hence higher rates. The desired tradeoff boils down to judiciously choosing the condition for stopping probing. Capitalizing on optimal stopping theory, we show that the optimal scheduling policy turns out to be a pure threshold policy. We generalize the study to cases with noisy probing, and then investigate distributed scheduling with two-level probing, aiming to quantify whether it is worthwhile for the link with successful contention to perform further probing to mitigate estimation errors, at the cost of additional probing.

#### BIOGRAPHY:

Junshan Zhang received his Ph.D. degree from the School of ECE at Purdue University in 2000. He joined the EE Department at Arizona State University in August 2000, where he has been Professor since 2010. His research interests include communications networks, cyber-physical systems with applications to smart grid, stochastic modeling and analysis, and wireless communications.

Prof. Zhang is a fellow of the IEEE, and a recipient of the ONR Young Investigator Award in 2005 and the NSF CAREER award in 2003. He received the Outstanding Research Award from the IEEE Phoenix Section in 2003. He served as TPC co-chair for WICON 2008 and IPCCC'06, TPC vice chair for ICCCN'06. He was the general chair for IEEE Communication Theory Workshop 2007. He was an Associate Editor for IEEE Transactions on Wireless Communications, the Computer Network journal and IEEE Wireless Communication Magazine. He co-authored a paper that won IEEE ICC 2008 best paper award, and one of his papers was selected as the INFOCOM 2009 Best Paper Award Runner-up. He is TPC co-chair for INFOCOM 2012.

---

**Date:** Wednesday, May 16<sup>th</sup>, 2012

**Location:** Group Conference Room, Freescale Semiconductor, Inc., 2100 E. Elliot Rd. Tempe, AZ. Enter the facility through the Main (South) lobby in building 94, by the flag poles; you will be escorted to the meeting venue.

**Time:** 5:30–6:00 Social/Refreshments, 6:00–7:00 Presentation, 7:00 Dinner  
(Pizza and Soda will be provided by the IEEE CPMT Phoenix Chapter)

IEEE members and non-members are all welcome to attend. Those who plan to attend should be at the facility entrance no later than 6:00 pm, as there will be no escorts available after that.

---

#### **For more information, please contact any of the following CPMT officers:**

Surinder Tuli (480) 554-8275

Vivek Gupta (480) 413-5849

David Dougherty (480) 413-6923

Vasu Atluri (480) 227-8411

Mahesh Shah (480) 544-9438

IEEE CPMT Society Phoenix Chapter is seeking volunteers to serve as Chapter Officers during remaining of 2012. One has to be a member of IEEE CPMT Society to serve as the IEEE CPMT Society Phoenix Chapter Officer. If interested, please contact Dr. Vasudeva P. Atluri, Chair, IEEE CPMT Society Phoenix Chapter, by sending an email to [vpatluri@ieee.org](mailto:vpatluri@ieee.org).

# Power & Energy Society



## IEEE Power and Energy Society Phoenix Chapter

<http://ewh.ieee.org/soc/pes/phoenix/>



### News and Announcements:

- At the IEEE Phoenix Section Annual Award Banquet, the Phoenix PES Chapter was named the [Outstanding Chapter](#) for 2011. We would like to thank everyone who supports our Chapter by sponsoring and participating in our annual golf tournament and by attending our monthly luncheons.
- We are pleased to announce that our Chapter sponsored a \$1000 electrical engineering scholarship, which was awarded by the IEEE Phoenix Section in February. The deadline for the next round of scholarships is January 2013. For more details, see the [Section website](#).
- Want to know more about IEEE Power and Energy Society? Watch this video:
  - [http://www.youtube.com/watch?v=BRKM4lpo\\_tk](http://www.youtube.com/watch?v=BRKM4lpo_tk)
  - More videos are available at:
    - <http://ieee-pes.org/outreach/pes-informational-promotional-videos>
- Have you considered becoming a Senior Member of IEEE? It's not as difficult as you think. Basically, you need ten years of professional experience, and your bachelor's degree counts for three of those years. Find out more at:
  - [http://www.ieee.org/membership\\_services/membership/senior/index.html](http://www.ieee.org/membership_services/membership/senior/index.html)

### May 2012 Luncheon Meeting

Date: Thursday, May 17, 2012

Time: 11:30 am - 11:45 noon: Registration

11:45 noon: Lunch

12:15 pm: Program

Location: SRP PERA Club

1 E Continental Dr

Tempe, AZ

Map: <http://ewh.ieee.org/soc/pes/phoenix/images/PERAMAP.pdf>

Speaker: Daniel Haughton, Arizona State University

Topic: A Three-Phase linear Distribution Class State Estimator

Cost: \$5.00 (No cost if you are a college student)

Reservations: Contact Nancy or Stacy at (480) 991-9191, Ext 10 or Ext 16 or submit your name here:

<http://ewh.ieee.org/soc/pes/phoenix/lunch.php>

The reservation deadline is 5PM on Friday, May 11, 2012.

### Presentation Abstract:

A combination of technological advances, energy policies and economic factors has accelerated the pace of electric power distribution modernization efforts. Increased sensory data, communications capability and renewable distributed generation in distribution circuits are expected and encouraged. A distribution class state estimator is envisioned as a critical component of distribution management in

an advanced infrastructure. Near real-time sensory data may be used to leverage increased efficiency, reliability and asset utilization by enabling wider system optimization and control to safely operate the distribution system closer to its limits. A distribution class state estimation architecture incorporating real-time measurements and synchrophasor measurements is presented.

**Speaker Biography:**

Mr. Haughton holds a B.Sc. in Electrical Engineering from the University of South Florida, Tampa, FL, an M.S.E.E. from Arizona State University, Tempe, AZ, and is presently completing requirements for the Ph.D. degree at ASU in Electrical Engineering with a concentration in Electric Power and Energy Systems. His research activities focus on power distribution system monitoring, modeling, analysis and estimation in the smart grid environment. Mr. Haughton has industrial experience in power distribution with Belize Electricity Limited (BEL) in Belize City, and with the Tampa Electric Company (TECO) in Tampa, FL, in transmission planning at the California Independent System Operator (CAISO) in Folsom, CA, and as a power systems/power quality engineer with Intel in Rio Rancho, NM, and Chandler, AZ.

# Solid State Circuits Society



INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS



**Meeting Free & Open to Non-IEEE Members**  
**4:00pm to 5:30pm, Tuesday, Mar 27<sup>th</sup>, 2012**  
**Arizona State University- GWC 487 ([map](#))**

## **"Why Ohm's Law Isn't" or "Why There is a Lot More to Resistors than You Were Taught in School"**

*Dr. Colin McAndrew, Freescale Semiconductor*

### **Abstract:**

In school we are all taught Ohm's law:  $V=I \cdot R$ . Besides the fact that in the real world and the world of SPICE  $I=G \cdot V$  is a more convenient form, the biggest problem with this "law" is that the conductance  $G=1/R$  is not constant but is a function of  $V$ , and for semiconductor resistors is also a function of the voltage applied to the region (well or substrate) a resistor sits in (for diffused resistors) or above (for poly resistors), so in reality  $I=G(V, V_{tub}) \cdot V$ . For precision analog design (e.g. distortion simulation) a resistor model must accurately capture the nonlinearities of real resistors: depletion pinching and self-heating for both diffused and poly resistors, and in addition velocity saturation for diffused resistors. This talk gives details of the R3 3-terminal resistor model, including a physical analysis and description of each of these three nonlinearities and how they affect resistor characteristics, including the frequency dependence of self-heating. Examples of how measured  $I(V)$  data can be analyzed to isolate the individual effects will be presented. Several key points will be emphasized: that velocity saturation and self-heating are not just "short" device effects but affect the linearity of resistors of lengths greater than 50 microns; that self-heating can be the dominant cause of nonlinearity even in high sheet resistance diffused resistors; and that the local temperature rise in poly resistors from self-heating can be surprisingly high, several hundreds of degrees C.

### **Biography**

Dr. Colin McAndrew received the B.E. degree in Electrical Engineering from Monash University, Victoria, Australia and the M.A.Sc. and Ph.D. degrees in Systems Design Engineering from the University of Waterloo, Ontario, Canada. From 1987 to 1995 he was at AT&T Bell Laboratories, Allentown PA. Since 1995 he has been with Freescale Semiconductor (formerly Motorola Semiconductor Products Sector), in Tempe AZ, involved in compact and statistical modeling of semiconductor devices. He received the Bipolar Circuits and Technology Meeting (BCTM) Award in 2005, the Semiconductor Research Corporation Mahboob Khan Outstanding Mentor Award in 2007, and best paper awards from the International Conference on Microelectronic Test Structures (ICMTS) in 1993 and the Custom Integrated Circuits Conference (CICC) in 2002. He is Fellow of the IEEE, was an editor of IEEE Transactions on Electron Devices from 2001-2010, and is or has been on the technical program committees for the IEEE BCTM, ICMTS, CICC, and Behavioral Modeling and Simulation conferences.

SSCS-PHX Chapter Website: [http://www.ieee.org/go/sscs\\_phx](http://www.ieee.org/go/sscs_phx)  
Contact: Rackler Cyndi-RP0115 <rp0115@freescale.com>



# Life Member Affinity Group



## 2012 May Technical Meeting

**Topic:** "What High School Seniors have not learned and how Choice Theory can help students decide to learn"

This presentation reports results of original research that supports Glasser's claims that over half of the students in even our best schools do only the minimum required to get by. It then summarizes Choice Theory, Glasser's take on WHY we do WHAT we do. Glasser was a Chemical Engineer before he earned his MD as a Psychiatrist and has written 20+ books in the areas of Quality Schools, Lead Management, and Personal Relationships.

**Speaker:** **Les Holland** earned a BSEE (Electrical Engineering) from the University of Illinois in 1966 where he had worked on the Illiac II (the world's fastest computer for ~10 years) and PLATO (Programmed Logic for Automatic Teaching Operations), the world's first computer based educational system. He is a member of HKN (Eta Kappa Nu), TBP (Tau Beta Pi), and Mensa. Les worked at Motorola Government and Semiconductor operations for 25 years in computer programming and engineering management. Les selected, installed, and trained users on multiple generations of commercial interactive graphics systems used in the semiconductor industry. Les has been a board member of the IAA (Inventors Association of Inventors) since 2009. In 2011 he received the CT/RTC (Choice Theory / Reality Therapy Certification) from the William Glasser Institute ([www.wglasser.com](http://www.wglasser.com)).

**When:** Tuesday, May 15, 2012, 11:00am – 1:00pm Registration fee is \$15.

**Where:** SRP's **PERA Club** Bighorn Room,  
1 East Continental Drive, Tempe, AZ  
West of 68th St., 1/2 mile south of McDowell Road

**RSVP:** Please respond to Program Chair, Ronald Sprague by email:  
[rsprague@q.com](mailto:rsprague@q.com) at least a few days before the meeting.

The Program Chair is seeking suggestion from members for future technical presentations. Any ideas of interest are open for consideration. Please contact Ronald Sprague Program Chair at [rsprague@q.com](mailto:rsprague@q.com) or any officer with ideas.

### 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.

### Future Technical Meetings:

- Tuesday, May 15, 2012 SRP PERA CLUB
- Tuesday, October 16, 2012 SRP PERA CLUB
- Tuesday, December 4, 2012 SRP PERA CLUB

**Officers:**

Chair	A. Barry Cummings	<a href="mailto:Barry.Cummings@srpnet.com">Barry.Cummings@srpnet.com</a>
Vice Chair	Michel Ebertin	<a href="mailto:Michel@ebertin.net">Michel@ebertin.net</a>
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Program Chair	Ronald L. Sprague, P.E.	<a href="mailto:rlsprague@q.com">rlsprague@q.com</a>
Past Chair	C Bruce Johnson	<a href="mailto:cbj@johnsonscientificgroup.com">cbj@johnsonscientificgroup.com</a>

## Women in Engineering Affinity Group



IEEE Phoenix Section  
Women in Engineering  
Affinity Group



The next meeting of the IEEE Phoenix Section **Women in Engineering (WIE) Affinity Group (AG)** will be on May 31<sup>st</sup> at ASU. Meeting room and speaker biography will be available at the Vtools page below. Registration begins on Monday, May 7<sup>th</sup> 2012.

[https://meetings.vtools.ieee.org/meeting\\_view/list\\_meeting/12427](https://meetings.vtools.ieee.org/meeting_view/list_meeting/12427)

If you would like to be added to our distribution list for further information about this and future events, please contact Diane Watkins ([diane.watkins@srpnet.com](mailto:diane.watkins@srpnet.com)).

If you would be interested in helping to organize any of our activities or have suggestions for other activities or speakers for future events, please feel free to contact any of our organizing committee members:

Chair: Shamala Chickamenahalli ([shamala@ieee.org](mailto:shamala@ieee.org))  
Vice-Chair: Joy Harris ([jharris@exponent.com](mailto:jharris@exponent.com))  
Secretary / Publicity: Diane Watkins ([diane.watkins@srpnet.com](mailto:diane.watkins@srpnet.com))  
Treasurer: Diane Smith ([diane@web-oasis.com](mailto:diane@web-oasis.com))  
Web Master: Audrey Skidmore ([ASkidmore@azmag.gov](mailto:ASkidmore@azmag.gov))  
Membership: Lesley Polka ([lesley.a.polka@intel.com](mailto:lesley.a.polka@intel.com))  
Region 6 Liaison: Barbara McMinn ([barbara.mcminn@aps.com](mailto:barbara.mcminn@aps.com))

The IEEE WIE Affinity Group's mission is to inspire, engage, encourage and empower IEEE women worldwide with a vision of creating a community of IEEE women and men innovating the world of tomorrow. More information about IEEE WIE can be found at:  
[http://www.ieee.org/membership\\_services/membership/women/women\\_about.html](http://www.ieee.org/membership_services/membership/women/women_about.html).

# Computer Society



## Phoenix Chapter of the IEEE Computer Society

May, 2012

### News

- We continue to build our program schedule for the remainder of the year. We have a confirmed speaker for July (see below) and a tentative program for September.
- We are planning a chapter picnic for a date in late October or early November. The picnic will be at Desert Breeze park in Chandler and will be held on a Saturday. More details will be forthcoming.

### Future Events

- July 11 – Chapter meeting, DeVry University, speaker TBD
- September 12 – Chapter meeting, DeVry University, speaker TBD
- November 7 – Chapter meeting, DeVry University, speaker TBD

Meetings start at 6:00 pm with networking and light refreshments followed by the presentation at 7:00 pm. DeVry University is located at 2149 W Dunlap Avenue, Phoenix.

Visit the CS Chapter website for the latest information: <http://ewh.ieee.org/r6/phoenix/compsociety/>.  
For brief announcements regarding upcoming events we are also on Twitter: @IEEECS\_PHX

If you would like to suggest a topic or speaker for any of our future 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 ([sdianesmith@computer.org](mailto:sdianesmith@computer.org))

# Wave and Devices

*Next Updates coming soon*

IEEE 2012 Membership – Join/Renew



*Join/Renew!*

# 2012 Membership

[www.ieee.org/join](http://www.ieee.org/join) • [www.ieee.org/renew](http://www.ieee.org/renew)

*Run Ahead of the Curve*

## IEEE Communications Society

Global Community of Communications Professionals



*Also available on iPad!*

Society Membership benefits include:

- Monthly Digital Delivery of *IEEE Communications Magazine*.
- Online access to industry resources and technical papers.
- Online Tutorials, Webinars and other Educational Programs.
- Networking opportunities with technical experts around the world.
- Member discounts on the ComSoc Training, and the Wireless Communication Engineering Technologies (WCET) Certification Program.
- Monthly ComSoc e-News issues.
- Digital Delivery of *ComSoc Community Directory*.
- Additional ComSoc Member discounts on conferences, publications, and member-only products.
- Volunteer opportunities and eligibility for awards and recognition.
- Much more.

Become a 2012 Member – [www.ieee.org](http://www.ieee.org) • [www.comsoc.org](http://www.comsoc.org)

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## The Arizona Science Lab

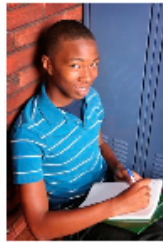


DISCOVERY  
TRIANGLE



**THE ARIZONA SCIENCE LAB**  
[www.arizonasciencelab.org](http://www.arizonasciencelab.org)

### Future Rocket Scientist Seeks Experience



**Yours**

### An Invitation to Engineers & Scientists

Dozens of engineers & scientists are working to make a difference for valley 4<sup>th</sup> through 9<sup>th</sup> grade students at the **Arizona Science Lab**. Come join us. Just a few hours can change a child's life - and yours!

Help us to spark an interest in science & engineering careers. Volunteers are needed to teach or help students perform the experiments and construct projects that will make science come alive for them.

Comprehensive training and orientation are provided.

The **Arizona Science Lab** has excellent equipment and a spacious facility.

Please join us for an Information Session about the **Arizona Science Lab** and to view a class on May 10, from 8:30 am to Noon, at The Meyer School, 2615 S. Dorsey Lane, Tempe, AZ

RSVP or more details, please contact Jane von Schilling at (623) 256 - 8294 or [jvonschilling@gmail.com](mailto:jvonschilling@gmail.com)

**THE ARIZONA SCIENCE LAB**

[www.arizonasciencelab.org](http://www.arizonasciencelab.org)

Sponsors: IEEE Teacher in Service Program / Engineers in the Classroom, Discovery Triangle, Tempe School District 3



## **ARIZONA SCIENCE LAB**

**"Helping Students Transfer What  
Is Learned In The Classroom To  
The World Beyond"**

# **OPEN HOUSE**

**Everyone Welcome**

**Monday, May 14**

**Tuesday, May 15**

**6:30 – 8:30 PM**

**Meyer School**

**2615 South Dorsey Ln**

**Tempe, AZ 85282**

**[www.azsciencelab.org](http://www.azsciencelab.org)**





# THE ARIZONA SCIENCE LAB®

Meyer School Facility, 2615 South Dorsey Ln, Tempe, AZ 85282-2799

[www.arizonasciencelab.org](http://www.arizonasciencelab.org)

## **THE WHOLE ARIZONA SCIENCE LAB WORKSHOP PROGRAM IS PROVIDED ABSOLUTELY FREE TO THE STUDENTS, TEACHERS AND SCHOOLS!!**

- ❖ It is provided to the Phoenix area elementary, middle and high schools by the IEEE “Arizona Science Lab,” Tempe Elementary School District No. 3, and the Discovery Triangle
- ❖ The teachers bring their grade 4 thru’ 9 science class (up to 60 students) to the Arizona Science Lab for a day of Science Workshop
- ❖ Each Science Workshop uses a lab setting to conduct a project-based lesson plan, complete with demonstrations, lecture and a construction project or experiments in a single 4 - 5 hour session
  - The students work in pairs and keep the projects they build
- ❖ Each Workshop is conducted by retired, employed and university student engineers and scientists who
  - Are highly qualified in math, physics, computers, electronics, power generation & distribution, structures, thermal, chemistry, materials science, software, etc.
  - Have “real world applications” experience of the science and can relate the theory being taught to the everyday application and to the design and operation of everyday objects
- ❖ The teachers choose a Lab Workshop from a list of ready-to-run Workshops that support the Common Core and Arizona Science Education Content Standards
- ❖ Each Workshop emphasizes the “Wow!” factor of hands-on construction projects and experiments:



## 2012 IEEE Phoenix Section Calendar



The calendar is updated by the Vice Chair on a rolling basis.  
TBD

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  
Charles Weitzel, 480-292-0531 [c.weitzel@ieee.org](mailto:c.weitzel@ieee.org)

### **Student Branch reports to IEEE HQ and Student Activities Chair due: May 1, 2012**

- o Call for Nominations issued by Nominating Committee
- o Student papers due Region 6 Southwest Area contest to be held May 26, 2012, in San Diego, CA
- Southwest Area Spring meeting incl. Student Paper and MicroMouse contests: May 26, 2012, in San Diego, CA, UCSD campus.



## Executive Committee Meeting Phoenix Section

**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: Ralph Hogan, 480-774-8227**

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

**Tuesday, May 1, 2012, 6–8 PM**

[Hilton Phoenix Airport, 2435 South 47th Street, Phoenix, AZ 85034](#)

### Agenda

- Section Officer Reports
  - Vice Chair – Chuck Weitzel: Calendar of Activities
  - Secretary – Barbara McMinn: Meeting Minutes
    - April Meeting Minutes
  - Treasurer – Bruce Ladewig : Monthly report
    - March/April Monthly Report
  - Past Chair – Jim Hudson
- Society Chapter and Affinity Group Reports
  - Components, Packaging and Manufacturing Technology (CPMT) – Vasu Atluri
  - Computer Society (CS) – Jerry Crow
  - Education Society (EdSoc) – Martin Reisslein
  - Electromagnetic Compatibility (EMC) – Harry Gaul
  - Engineering in Medicine and Biology Society (EMBS) – TBD
    - Contact Society, invite Members, identify Interim Chair
  - Graduates of the Last Decade (GOLD) – Chaturvedi Gogineni
  - Life Members Affinity Group (LMAG) – Barry Cummings
  - Phoenix Area Consultants Network (PACN) – Ron Sprague
  - Power & Energy Society (PES) – Scott Freymuller
  - Signal Processing & Communications (SP/Com) – Pavan Turaga <pturaga@asu.edu>
  - Solid State Circuits Society (SSCS) – Mohamed Arafa
  - Waves & Devices (WAD) – Steve Rockwell
  - Women in Engineering (WIE) - Shamala Chickamenahalli
- Student Branch Reports [Advisor]
  - Student Activities Chair – Diane Smith
  - ASU Main, Engineering – Saurabh Naik [Cihan Tepedelenioglu]
  - ASU Main, Computer Society – Nicholas Vaidyanathan [Guoliang Xue]
  - ASU Polytechnic – TBD [TBD]

## IEEE Phoenix Valley Megaphone May 2012

- DeVry, Phoenix –Diane Smith
- DeVry, Computer Society – Donovan Benedict
  
- Embry Riddle – Tim Lemm [John E. Post]
- NAU, Engineering – Kenji R. Yamamoto [Niranjan Venkatraman]
- NAU, Computer Society – TBD [TBD]
- Standing Committee Reports
  - Awards – Vasu Atluri
  - Inter-Society & Professional Activities Committees for Engineers (PACE) – Mike Andrews
  - Membership – Vasu Atluri
  - Phoenix Conferences – Guoliang Xue
  - Publicity – Surinder Tuli
  - Teacher In-Service Program (ASL)– John Purchase
  - Web –Krishna Bharathkrishna
- New Business
- Adjourn

## IEEE Membership Grade Advancement

IEEE Phoenix Section Executive Committee encourages all to apply for advancement in membership grade to Senior Member and Fellow Grade. Please review the requirements at [www.ieee.org](http://www.ieee.org). Please contact IEEE Phoenix Section Membership Development Chair, Dr. Vasudeva P. Atluri, at [vpatluri@ieee.org](mailto:vpatluri@ieee.org) for additional information.

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### Enhanced Senior Member Application Launched

Effective 29 July 2011, IEEE Admission and Advancement launched a [new Senior Member Application](#). The new application includes numerous enhancements, based on feedback from volunteers and members, including:

- New user friendly format / design
- Secure environment (need IEEE Web account)
- Ability to save application in “draft” form
- Ability to upload resume or Curriculum Vitae (up to 3 MB)
- Applicant can view application online
- Applicant can view status of requested reference forms
- References will be notified by email to provide applicant reference
- References will have the ability to view their completed reference form(s)
- Real time application status

The goal is to provide prospective Senior Members with an easy to use and intuitive interface, while streamlining internal operations at the same time. [View the new Senior Member application](#).

## **IEEE-USA Government Fellowships:**

Each year, IEEE-USA sponsors three qualified IEEE members to serve as government fellows: one Engineering & Diplomacy Fellow and two Congressional fellows. The fellows spend a year in Washington, serving as advisers to the U.S. Congress or key U.S. Department of State decision-makers. IEEE-USA's Government Fellowships link engineers with government, providing a mechanism for IEEE-USA members to learn firsthand about the public policy process through personal involvement.

The congressional fellowship consists of an appointment to the personal staff of a U.S. Senator or Congressman, or to the professional staff of a Congressional Committee. The Fellow along with the Congressional sponsor and IEEE-USA, negotiates a starting date, although IEEE-USA recommends that Fellowship terms run from January 1st to December 31st. For an application Kit for the 2013 Congressional Fellowship Program, visit:

[http://ieeeusa.org/policy/govfel/documents/cfappkit13\\_000.doc](http://ieeeusa.org/policy/govfel/documents/cfappkit13_000.doc)

The State Department fellowship begins in January of each year and offers an opportunity for an engineer to provide technical expertise to the State Department, and help raise awareness of the value of engineering input while learning about and contributing to the foreign policy process. For an application Kit for the 2013 Engineering & Diplomacy (State Department) Fellowship Program, visit: <http://ieeeusa.org/policy/govfel/documents/Stateappkit13.doc>

The postmark application deadline for 2013 Fellowships is 16 March 2012. For more information, visit: <http://www.ieeeusa.org/policy/govfel/default.asp>

## **Washington Internships for Students of Eng'g (WISE)**

SUMMER 2012 PROGRAM Monday, 4 June - Friday, 3 August:

WISE seeks applications from outstanding engineering students who display evidence of leadership skills and have a keen interest in public policy. Minority students are encouraged to apply.

Applicants should select a sponsoring society(s), fill out an application form, write two (2) brief essays in response to questions, arrange for two (2) faculty references, and forward an official transcript. The deadline for Summer 2012 applications is December 31, 2011. For more info and application forms, please visit: <http://wise-intern.org/application/index.html>

“...one of the best summers of my life. One which truly transformed my dreams and goals. ....when I left D.C. I really wanted to instill in my fellow engineers the appreciation of the interaction between public policy and engineering.” -- Marc Canellas, WISE 2011

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## **IEEE USA E Book on Transition**

IEEE-USA E-Book on Transition from School to Work to be Offered Free as Special Benefit to IEEE Members

WASHINGTON (31 October 2011) -- As a special benefit of IEEE membership for November, IEEE-USA is offering a free e-book, "Engineer's Guide to Lifelong Employability: The Transition from School to Work." This e-book, prepared by the IEEE-USA Employment and Career Services Committee, provides a road map for the student preparing to enter the job market -- what employers are looking for, how they can best find a job and what career paths are open to a new grad. Topics include:

- \* Finding a Job the Old-Fashioned Way
- \* Networking
- \* The Campus Interview
- \* Making up Your Mind
- \* Four Career Paths
- \* Business -- Big or Small?
- \* A Non-Technology Company

"Demand for new BSEEs may be soaring, but so are employer's standards and expectations," writes Jean Eason, IEEE-USA Employment and Career Services Committee member. "Good grades and technical expertise aren't enough anymore."

From Nov. 1 through Nov. 30, "Engineer's Guide to Lifelong Employability: The Transition from School to Work" can be downloaded at [www.ieeeusa.org/communications/ebooks](http://www.ieeeusa.org/communications/ebooks) for free to IEEE Members. The nonmember price is \$5.99. Members can purchase other IEEE-USA E-Books at deeply discounted prices and download other free e-books. In December the free publication will be book three in the "Engineer's Guide to Lifelong Employability" series: "What Are You Worth?"



## Phoenix Section LinkedIn Group

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