

The Valley Megaphone

Newsletter of the
**Institute of Electrical and
Electronics Engineers, Inc.,
Phoenix Section**
January 2014,
Volume XXVIII, Number 1



Executive Committee 2013

Chair

Barbara McMinn 602-371-6383
barbara.mcminn@aps.com

Vice Chair

Bruce Ladewig, 480-620-9291
bruceladewig@ieee.org

Secretary

Surinder Tuli, 480-554-8275
Surinder.tuli@gmail.com

Treasurer

Vivek Gupta, 480-734-0266
vmgupta@msn.com

Past Chair

Charles Weitzel, 480-292-0531
c.weitzel@ieee.org

Publicity

Mahesh Shah, 480-544-9438
mkshah@ieee.org

PACE

Vivek Gupta, 480-734-0266
vmgupta@msn.com

Membership

Vasudeva P. Atluri,
480-227-8411
vpatluri@ieee.org

Student Activities

S.Diane Smith, 602-749-4601
sdianesmith@computer.org

Conferences

Brad Morantz, 480-348-5945
bradscientist@ieee.org

Awards

Vasudeva P. Atluri,
480-227-8411
vpatluri@ieee.org

Inter-Society

Mike Andrews, 480-991-1619
m.andrews@ieee.org

Webmaster

Krishna Bharath 480-552-8913
kbharath@ieee.org

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IEEE Phoenix Section on-line updates can be found at <http://sites.ieee.org/phoenix/> and on LinkedIn at: <http://www.linkedin.com/groups?gid=2765918>

Please send announcements for the *Valley Megaphone* to Mahesh Shah at mkshah@ieee.org for inclusion in the Section Calendar.

The IEEE Banquet pictures are up at <http://sites.ieee.org/phoenix/category/annual-banquet/>

All meetings announced in the Phoenix Section Megaphone or on the Phoenix Section Calendar are open to everyone (IEEE members and non-Members)

Chapters

Signal Processing & Communications

Pavan Turaga
pturaga@asu.edu

Computer Society

Jerry Crow
jerry.crow@computer.org

CPMT Society

Mahesh Shah
480-544-9438
mkshah@ieee.org

Education Chapter

Martin Reisslein, 480-965-8593
reisslein@asu.edu

EMBS Chapter

TBD

EMC Society

Harry Gaul, 480-441-5321
harry.gaul@ieee.org

GOLD

Shafiul "Jacky" Islam 520-245-9010
shafiul.islam@intel.com

Power & Energy Society

Craig Smith
craig.smith@aps.com

Solid State Circuits

Cyndi Recker
cyndi.recker@ieee.org

Teacher-In-Service

Rickie Currens
Rickie.Currens@att.net

Waves & Devices Society

Steve Rockwell
steve.rockwell@ieee.org

Life Members

Les Daviet II
lesdavietii@cs.com

Women In Engineering

Shamala Chickamenahalli
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
Student Activities Chair

Student Branches

ASU Main, Engineering
Chair: Jennifer Taggart
928-581-5198, jennifer.taggart@asu.edu
Advisor: Cihan Tepedelenioglu,
480-965-6623, cihan@asu.edu

ASU Main, Computer Society
Chair: TBD
Advisor: Guoliang Xue
480-965-6218, xue@asu.edu

ASU Polytechnic
Chair: TBD
Advisor: TBD

DeVry, Phoenix
Chair: Lori Renaldi
lorirenaldi@computer.org

Advisor: Diane Smith
dsmith2@devry.edu

DeVry, Computer Society
Chair: TBD
Advisor: Diane Smith
dsmith2@devry.edu

NAU, Engineering
Chair: TBD
Advisor: Niranjan Venkatraman
v.niranjani@ieee.org

Embry-Riddle, Prescott
Chair: Lisa M. Ferguson
FERGUSL2@my.erau.edu
Advisor: John E. Post
postj@erau.edu

U – Newsbytes

ASU Polytechnic is currently seeking Advisor for the Student Branch. Please email Diane (at email address above) with Recommendations.

The Department of Computer, Electrical, and Software Engineering at **Embry-Riddle Aeronautical University** in Prescott, AZ invites applications for a faculty position (tenure-track or tenured) at the assistant or associate professor level. The successful candidate should have a Ph.D. in Computer Science, Software Engineering, Computer Engineering or a related field at the time of employment. Preferred areas of expertise for this position include network, cyber, or computer system security, agile software development, cyber-physical and trustworthy systems, and management and team approaches for building software systems. Apply online at www.erau.edu/jobs and search for positions at Prescott. Contact Professor Post at john.post@erau.edu for further information.

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



IEEE PHOENIX SECTION



Dear IEEE Phoenix Section Member:

Greetings and best wishes for 2014! This letter is being mailed to give you key highlights of the Section's activities in 2013 and information on current and upcoming activities. Section had an excellent 2013 which was made possible due to the outstanding and untiring support of the volunteers. I extend my sincere thanks to all Section Volunteers for their support and outstanding contributions during 2013. Some of the key highlights are:

- The IEEE Phoenix Section continued to maintain its tradition of serving the IEEE Members and the community at large. Phoenix Section increased and expanded outreach to IEEE Members and Non-members through the monthly newsletter, LinkedIn, and Facebook.
- The IEEE Phoenix Section had an outstanding 2013 having undertaken a wide variety of activities to support IEEE members, non-members, college and pre-college students, and the engineering community at large. Our Chapters, Affinity Groups, Student Branches, and Standing Committees have been very active in various areas such as technical seminars, professional development, community education, industry visits, and job fair. During 2013 Phoenix Section volunteers participated in well over 100 professional and technical activities. On average there were at least 2 Phoenix Section activities every week of 2013.
- Section webmaster completely revised existing Section website using WordPress in order to achieve a more up to date appearance with links to Section Newsletter, LinkedIn and Facebook. Especially noteworthy was that the webmaster and Awards Committee incorporated online Section Award Nominations, Student Scholarship Applications, and Banquet Registration. IEEE Phoenix Section website can be accessed at <http://sites.ieee.org/phoenix/>.
- Section PACE representative oversaw the launching a Section Facebook site to reach out to an additional engineering community who prefers to communicate via social media.
- Section continued publication of a monthly newsletter, the Valley MegaPhone, electronically to help with cost reduction. It can be accessed at the Section website. Electronic version of the newsletter was started more than a decade ago. The cost savings are being passed onto other Section activities with a major focus on student activities. An IEEE eNotice is sent every month to Section members about the newsletter posting.
- E-mail and Web postings are the predominant communication mode for the Section. E-mail is sent to members through IEEE e-notice to the email addresses listed in the IEEE membership database, SAMIEEE. To obtain a Web account or update your email and mailing preferences, please visit myieee.org or call 1-800-678-IEEE (4333). The Phoenix Section officers do not have authority for these operations.
- Phoenix Section held Annual Awards Banquet on February 9th, 2013, with the goal of showcasing IEEE and Phoenix Section Activities, providing a forum for member networking, timely Keynote presentation, and recognizing contributions of members, non-members, faculty, students, and corporations. Student scholarships of \$6000 worth were awarded.
- Phoenix Section has an ongoing, very unique TISP/ASL activity that in calendar year 2013 taught 1673 students (grades 4 – 8) and 47 teachers from 22 different schools. Teachers got to choose from the following modules: Rockets, Sail Boats, Solar Cars, Watermills, Popsicle Bridges, Cracking the Code, and Electric Motors. Each teaching module embodies basic science and math principles. TISP/ASL is free to all schools, staffed by volunteers, and in 2013 received grants from: IEEE, APS, Intel, PES, and First Solar.
- Phoenix Section supported a wide variety of IEEE activities by providing financial and other support for the Society Chapters, Affinity Groups, and Student Branches, that make up the Phoenix Section. Section sponsored a Student Paper contest on March 23rd, 2013 and hosted Region 6 Fall Southwest Area meeting in Phoenix on August 24th, 2013.
- Phoenix Section also supported several non-IEEE groups and activities. Financial and volunteer support was provided to the Future City Competition which was held on January 29th, 2013 and eWeek at the Arizona Science Center on February 23rd, 2013. Section also provided judges for the Intel International Science and Engineering Fair held on May 12th, 2013.



IEEE PHOENIX SECTION



- Phoenix Section Society Chapters were very active in 2013.
 - CPMT (Components, Packaging, and Manufacturing Technology) Chapter held 6 technical and 3 administrative meetings.
 - Computer Society held 6 technical and 6 administrative meetings.
 - Electromagnetic Compatibility Chapter held 3 technical meetings.
 - Power and Energy Society held 8 technical and 9 administrative meetings in addition to their annual fund raising golf tournament.
 - Signal Processing and Communications Chapter held 9 technical meetings & initiated a Student Seminar Series where graduate students present their work.
 - Solid-State Circuits held 7 technical and 2 administrative meetings.
 - Waves and Devices Chapter held 5 technical and 2 administrative meetings.
- Phoenix Section Affinity Groups were also very active in 2013.
 - The GOLD (Graduate of the Last Decade) Affinity Group was revitalized and held 7 meetings.
 - LMAG (Life Member Affinity Group) held 3 meetings.
 - WIE (Women in Engineering) Affinity Group held 4 professional and 2 administrative meetings and also supported Girls in STEM on May 18th, 2013, and provided volunteers for the ASU Engineering Career Exploration Night held on September 10th, 2013 and the ASU Career Fair on October 1st, 2013.
- Phoenix Section also has several very active Student Branches.
 - ASU Student Branch was very active in 2013 with a total of over 14 events focusing on career development, technology, and IEEE benefits. One ASU Student Member won second place at the SWA Student Paper Contest that was held at the Region 6 Southwest Area Spring meeting in La Jolla, CA.
 - Embry-Riddle Aeronautical University Student Branch was also very active holding over 11 events including a December 6th, 2013 S-PAC. One Student Member won 1st place at the SWA Student Paper Contest that was held at the Region 6 Southwest Area Spring meeting in La Jolla, CA. At the same meeting the Branch was also recognized as Small Student Branch of the year.
- The Phoenix Section Executive Committee meets on the first Tuesday of every month, except July and August, from 6:00 – 8:00 PM at the Hilton Phoenix Airport (2435 S. 47th Street, Phoenix, Arizona 85034; Tel: 480-894-1600). The January meeting is an appreciation dinner for the Section Executive Committee members only and is typically held at a restaurant outside Hilton Phoenix Airport.
- The Section Annual Banquet is scheduled for Saturday, February 8th, 2014, at the Hilton Phoenix Airport from 6:00 – 9:30 PM. The program includes a social hour followed by dinner, keynote presentation and awards ceremony. The Section Executive Committee encourages all members and their guests to attend the banquet. Complete Banquet Information along with Banquet Registration can be found at <http://sites.ieee.org/phoenix/>. https://meetings.vtools.ieee.org/meeting_view/list_meeting/20721 is the direct link for the Banquet Registration. The deadline for Banquet Registration is Wednesday, February 5th, 2014.
- The elected Section officers for the year 2014 are: Barbara McMinn (Chair), Bruce Ladewig (Vice Chair), Surinder Tuli (Secretary), Vivek Gupta (Treasurer), and Charles Weitzel (Past Chair).

We hope to see you at the IEEE Phoenix Section Annual Banquet on Saturday, February 8th, 2014.

Thank you very much for your continued support!!!

Charles E. Weitzel, PhD

IEEE Phoenix Section Chair - 2013



IEEE PHOENIX SECTION



Glimpses of IEEE Phoenix Section Annual Banquet 2013



**Attend this year's Banquet and enjoy!!! Register for Banquet by Wednesday, February 5th, 2014!!!
Banquet Registration at https://meetings.vtools.ieee.org/meeting_view/list_meeting/20721**

Annual Banquet - Saturday, February 8th, 2014

Keynote Presentation

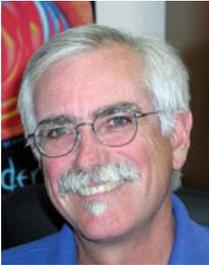
Title: Getting to Know Mars

Speaker: Prof. Peter Smith, Planetary Sciences, University of Arizona

Abstract

Since the early 60's there have been an armada of spacecraft exploring the secrets of our neighboring planet, yet understanding its true nature has been illusive. We see a dry planet with ancient waterways that dwarf the Amazon River, huge volcanoes are identified as dormant yet meteorites known to come from Mars were from recent eruptions, we find habitable zones on Mars but no organic material; Mars is the ironic planet shrouded in mystery. Liquid water would boil away nearly instantly, only vapor and ice are stable; so how did the recently discovered gullies that seem active today form if not from water? This talk will address the mysteries that Mars presents us with and the methods that are being used to come to a more secure understanding of the history and future of the red planet.

Speaker Biography



Prof. Peter Smith is a Professor Emeritus of Planetary Sciences at the University of Arizona and held the Thomas R. Brown Distinguished Chair of Integrated Science. His career spans 4 decades during which he has participated in many of the space missions to various planets in the solar system. Combining a background in optical sciences with a deep interest in geology and planetary atmospheres, Dr. Smith has contributed to cameras that have flown to Venus, Mars, Jupiter, and Titan. In 1997 his camera on board the Mars Pathfinder lander returned exquisite pictures of the dry, rocky plains in Chryse Planitia. The world watched as the team drove a small rover around the spacecraft studying the composition of the local rocks and soils. In 2008, Dr. Smith was the Principal Investigator, or leader, of the Phoenix mission to the icy northern plains of Mars. This mission was operated from its science center on 6th Ave for five months and found that the ice of the northern plains is a potential habitable zone on Mars. He has won numerous awards including the prestigious NASA Exceptional Scientific Achievement Medal. He is an imaging scientist on the OSIRIS-REx mission to return samples from a nearby asteroid.

Complete Banquet Information along with Banquet Registration:

<http://sites.ieee.org/phoenix/>

Banquet Registration Direct Link:

https://meetings.vtools.ieee.org/meeting_view/list_meeting/20721

Please Support the IEEE Phoenix Section by Joining as Volunteer in Section Committees, Society Chapters, Affinity Groups, and Student Branches.

Visit the Section website at sites.ieee.org/phoenix/ for additional information.

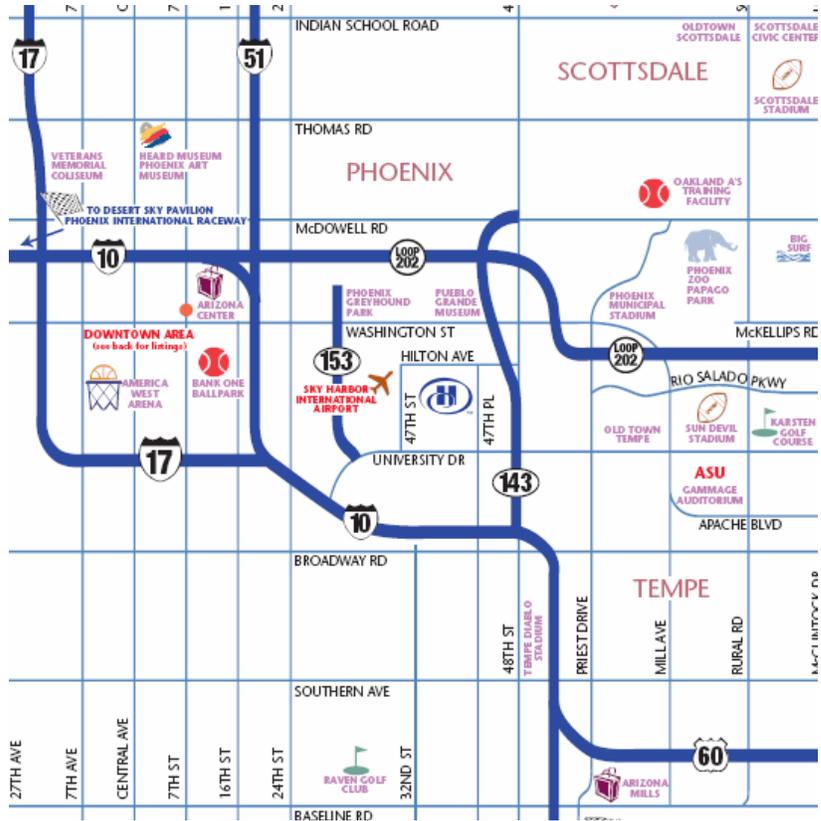
**IEEE Phoenix Section
Annual Banquet 2014
Saturday, February 8, 2014**

Venue



**Hilton Phoenix Airport
2435 South 47th Street
Phoenix, Arizona 85034
(480) 894-1600**

**West of Hohokam (143) Freeway
and North of University Drive**





Upcoming Conferences in November in Region 6

In this cold weather, there are but 9 conferences in all of Region 6 in January 2014. Six are in California, two in Las Vegas, and one in Hawaii. There are none in Arizona, Oregon, or Washington.

We look forward to the 2014 IEEE International Symposium on Parallel & Distributed Processing Symposium (IPDPS) which will be at the Arizona Grande Resort in May of next year.



THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.



IEEE COMPONENTS, PACKAGING AND
MANUFACTURING TECHNOLOGY SOCIETY

**IEEE Components, Packaging and Manufacturing Technology Society
Phoenix Chapter
Wednesday, January 29th, 2014 at 5:30 PM**

Trends in Smartphone & Tablet Semiconductor Packaging

Deborah Patterson

**Senior Director, Product and Technology Marketing
Amkor Technology, 1900 Price Rd, Chandler, AZ 85286**

ABSTRACT

With its inclusion of cellular functionality, the introduction of the iPhone in 2007 transformed the traditional PDA into a smartphone – and its revolutionary form factor broke through barriers of age, profession, and geography. Six years later, the smartphone has spawned a new generation of tablets, convertible computers, sport and medical plug-in devices, as well as wearable gadgets. It is now crossing over to the automotive and M2M segments as connectivity through the Internet has become an integral part of our lives and where “content is now king.” This talk will explore the key functional components that go into smartphones and tablets along with the package types that support these devices. From applications processors to power amps to the multiple MEMS devices that must work together in tandem (MEMS fusion), semiconductor packaging is as diverse and creative as the components it serves. Next generation trends examining the emergence of GPU, multi-band design, and system in package (SiP) trends will also be presented.

BIOGRAPHY



Ms. Patterson joined Amkor Technology in 2011. She is responsible for tactical and strategic marketing policies, objectives and initiatives, and marketing communications. Prior to joining Amkor, Ms. Patterson provided business development, sales, marketing and product management services through her company, the Patterson Group, LLC. She has held various director level positions at Advantest, Kulicke and Soffa, Flip Chip Technologies, and StratEdge Corporation. She has worked in the packaging, assembly and test sectors for over 25 years. She holds an electrical engineering degree from the University of California, San Diego and a Biology degree from Furman University.

Date: Wednesday, January 29th, 2014

Location: Group Conference Room, Freescale Semiconductor, Inc., 2100 E. Elliot Rd. Tempe, AZ. There are new signs on the property (Discovery Business Center). Enter the facility through the Main (South) Lobby in building 94 and sign in with Security (Photo ID required). You will be escorted to the meeting room.

Agenda: 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 5:45 PM, as there will be no escorts available after that.

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

Mahesh Shah (480) 544-9438	Vivek Gupta (480) 734-0266	David Dougherty (480) 413-6923
Devrajan Balaraman (480) 619-0944	Adel Elsherbini (734) 686-2278	Ashish Gupta (480) 554-2409
Nageswara Rao J. (650) 213-6733	Vasu Atluri (480) 227-8411	Surinder Tuli (480) 287-143



THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.



IEEE COMPONENTS, PACKAGING AND
MANUFACTURING TECHNOLOGY SOCIETY

2014 Executive Committee for CPMT Chapter for IEEE-Phoenix Section

Position	Name	Phone Contact	Email Contact
Chair	Dr. Mahesh K. Shah	(480) 544-9438	mkshah@ieee.org
Asst. Chair	Mr. Vivek Gupta	(480) 734-2366	vmgupta@msn.com
Secretary	Dr. Devarajan Balaraman	(480) 619-0944	iangoibiking@gmail.com
Treasurer	Mr. Surinder L. Tuli	(480) 287-1437	surinder.tuli@gmail.com
Program Chair	Mr. David Dougherty	(480) 245-8099	david.dougherty@freescale.com
Asst. Program Chair	Dr. Nageswara R. Janapala	(650) 213-6733	nageswara.r.janapala@intel.com
Tutorial Chair	Dr. Ashish Gupta	(480) 294-3680	ashish.x.gupta@intel.com
Asst. Tutorial Chair	Adel Elsherbini	(734) 686-2278	a.elsherbini@gmail.com
Workshop Chair & Publicity	Dr. Vasudeva P. Atluri	(480) 227-8411	vpatluri@ieee.org

Computer Society



Phoenix Chapter of the IEEE Computer Society January, 2014

News

- We are beginning to assemble our programs for 2014. Tentative 2014 chapter meeting dates are listed below. Mark your calendars to save the dates:
 - January 8th at DeVry University (see below)
 - March 5th at ITT-Tech
 - May 7th at DeVry University
 - July 2nd at ITT-Tech
 - Sep 3rd at DeVry University
 - Nov 5th at ITT-Tech

Details of the program for these chapter meetings will be published as the speakers are confirmed.

Future Events

- January 8th (note: second Wednesday)– Chapter meeting, DeVry University, speaker Dr. Antonio Pizzarello; **“The Theory and Practice of Software Bugs”**

The word “bugs” is used in the software world to indicate both the faults and their manifestation as an error. Errors are detected both during testing and after deployment.

Using the error as the first clue for the search of the fault, programmers intervene by searching the code for detecting a presumed defect and correcting it. This search and the correction process are not done using rigorous analysis but only via an ad-hoc process relying mostly on past experience. In the meantime academic research has reached a level of understanding of the semantics of programs and of how to combine them to create complex systems that can be expressed in a highly formal manner. This body of knowledge is seldom used for designing new algorithms and almost never to improve the uncertain process of understanding existing code.

In the mid 90’s a company dedicated to software maintenance successfully introduced formal methods in the fault correcting process. The approach was rapidly recognized as a powerful method to understand existing code for supporting the system modification work. Considerable improvements, building upon research done in the years from 2000 to the present, have added capabilities with the objective of making the process applicable to all peculiar features of modern software including program composition, concurrency, executable code and real computer arithmetic.

A process including these improvements can be used manually, but it is tedious. However, because it is fully formal, requiring extensive symbol recognition and string manipulation, computer based tools can be constructed to make the process very efficient and reliable.

This presentation will describe both the theoretical foundations and their practical application. A number of real world examples will be shown.

Dr. Antonio Pizzarello began his career as an aeronautical engineer at Nardi S.P.A., Milan, Italy, before moving into the computer science field with General Electric Information System Italia. While at General Electric, Tony held a number of responsible positions including manager of engineering and scientific applications and manager of application software and system support. He became a consulting software system designer with General Electric in Phoenix, AZ. When it was acquired by Honeywell Information Systems he rose to become a Chief Fellow, the highest technical position in the company. Antonio received his Doctorate in Aeronautical Engineering from the Politecnico di Milano, Milan, Italy, and has also been a Research Professor of Computer Science at Arizona State University.

Tony co-founded the Peritus Corporation growing it to multi-million dollar annual revenue before it was acquired. He was also a major influence in Finsiel (the second largest software company in Europe) and the information processing group of Banco Sabadel in Spain. Tony co-founded OntoPilot LLC in 2008 to facilitate commercialization of the current advanced state of the technology.

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, (a mile east of I-17 on Dunlap). ITT-Tech is located at 5005 S Wendler Drive, Tempe (NW corner of I-10 and Baseline Rd).

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:

Chair:	Jerry Crow (jerry.crow@computer.org)
Vice-chair:	Brad Morantz (bradscientist@ieee.org)
Secretary/Webmaster:	Audrey Skidmore (askidmore@computer.org)
Treasurer:	Diane Smith (sdianesmith@computer.org)

Power & Energy Society



**IEEE Power and Energy Society
Phoenix Chapter**

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



News and Announcements:

- Want to know more about IEEE Power and Energy Society? Watch this video:
 - 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

January 2014 Luncheon Meeting

Date: Thursday, January 16, 2014
Time: 11:30 am - 11:45: Registration
11:45: Lunch
12:00 pm: Program
Location: SRP PERA Club
1 E Continental Dr
Tempe, AZ
Map: <http://ewh.ieee.org/soc/pes/phoenix/images/PERAMAP.pdf>
Speaker: Chuck Russell, SRP Transmission Planning
Topic: SRP Transmission Planning History
Cost: \$5.00 (No cost if you are a college student)
Reservations: Contact Nicole at (602) 470-0400 or submit your name here:
<http://ewh.ieee.org/soc/pes/phoenix/lunch.php>
The reservation deadline is NOON on Monday, January 13, 2014



Joint ASU & IEEE PES Phoenix Chapter Distinguished Speaker + Luncheon

Date: Friday, February 21st, 2014

Time: 9:30am-10:30am: Registration
10:30am: Seminar
11:30am: Lunch

Location: Arizona State University, Tempe Campus (see attached maps)
Memorial Union, Ventana Ballroom 241 (2nd Floor) (see attached maps)

Speaker: **Charles Bayless**

Topic: **Net Metering and Solar Power, The flows of Money and Electrons.**

Abstract: Mr. Bayless will discuss the questions that must be considered for the integration of large amounts of renewables into the grid followed by a look at what are the economic effects on customers installing rooftop solar, other customers and the utility.

Bio: Mr. Bayless was previously the President and Provost of the West Virginia University Institute of Technology, a divisional Campus of West Virginia University. Mr. Bayless has served as the Chairman, President, and Chief Executive Officer of Illinova Corporation, and its' wholly owned subsidiary, Illinois Power Company, and he has previously served as Chairman, President, and Chief Executive Officer of Tucson Electric Power Company. Mr. Bayless holds a BSEE, a MSEE, a Law degree, and a MBA.

Cost: **Lunch is FREE! Attendees will have to cover the cost of parking at ASU (see attached parking map).**

Reservations: **REQUIRED! Must Register by Friday, February 14th**
Register Online at: <http://ewh.ieee.org/soc/pes/phoenix/lunch1402.php>

More information regarding the PES Phoenix Chapter can be found at: <http://ewh.ieee.org/soc/pes/phoenix/>

Sponsored by:



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



Meeting Free & Open to Non-IEEE Members

6:00 to 7:30PM, Wednesday, January 29th, 2014

**Artisan Court, Room 240, Arizona State University, Tempe, AZ
(East side of Mill between 6th and 7th street)**

Expanding your knowledge of Laser Fusion and Optical Accelerators

Ken Barat, Laser Safety Consultant

Abstract

Two novel applications of lasers are in the field of laser fusion and optical accelerators. Our speaker has had active involvement in both these applications. Presently the largest operating laser fusion project is the National Ignition Facility at Lawrence Livermore Nat Lab. This is part of an ongoing 40 yrs. effort to obtain laser fusion. A review of NIF and its present and future status will be presented.

Followed by an overview of the “table top accelerator”, which to date has the capability to generate 1-10GeV beams in less than a meter of space. The talk will give an over view of laser optical accelerators using LOASIS and BELLA systems as examples of this technology & its proliferation.

Biography

Ken Barat until his retirement was the Laser Safety Officer for Lawrence Berkeley National Lab, and National Ignition Facility. Presently he is working as an independent laser safety consultant here in AZ. Ken is the author of three text books on laser safety and numerous articles, Laser Institute of America (LIA) Fellow and IEEE & SPIE Senior member. He is a national and international speaker on laser safety topics. Chair of the ANSI Z136.8 Committee, as well as chair of first 8 LSO Workshops. He established the AZ Radiation Regulatory agency Laser Program and is a laser safety advisor to many high tech firms and Universities. He can be reached at lasersafetysolutions@gmail.com

Date: Wednesday, January 29th, 2014

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

**Location: Artisan Court, Room 240, Arizona State University, Tempe, AZ
(East side of Mill between 6th and 7th street)**

For more information, contact:

Steve Rockwell (WAD Chapter Chair) (480) 241-9891 steve.rockwell@ieee.org
Vishwanath Natarajan (Chapter Publicity) (404) 428-0514 vishwanath.natarajan@ieee.org

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



Connection One

Semi-Annual Meeting

Jan 30-31

Old Main, Arizona State University

www.connectionone.org

Integrated Circuits, Systems, and Sensors

Presentation by Research and Students from Arizona State University, Ohio State University, Rensselaer Polytechnic Institute, and University of Hawaii.

- Analog, RF and mixed-signal IC
- Analog, mixed-signal design for biomedical, telecommunication, defense, automotive and instrumentation applications
- MEMS sensors and actuators
- Digital, VLSI design
- IC Design for testability
- IC Design for harsh environments including temperature, radiation, and aging
- Antennas, Microwave Circuits
- THZ Circuits

Registration: www.connectionone.org

Registration Deadline: Jan 15, 2014

* Registration is Free to Industry





Phoenix Section Life Member Affinity Group

Technical & Administrative Meeting February 11, 2014

Technical Program: Tentative Speaker is the Phoenix Section - Chair

Group Discussion Items:

1. TOPICS FOR TECHNICAL PRESENTATIONS FOR 2014 TECHNICAL MEETINGS
2. 2014 LMAG ACTIVITIES
 - a. ARIZONA SCIENCE LAB MANPOWER SUPPORT
 - b. BEGIN ANNUAL SCHOLARSHIP PROGRAM
 - c. PROGRAMS TO ENCOURAGE YOUTH TO PURSUE ENGINEERING AS A CAREER
3. VOLUNTEERS FOR INVESTIGATION INTO TEAM IDEAS.

When: Tuesday, February 11, 2014, 11:00am – 1:00pm, Registration fee is \$15. This fee will include lunch provided by the PERA Club.

LIFE MEMBER AFFINITY GROUP MEETING

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

RSVP: Please respond to Program Chair, Ronald Sprague by email:
r.sprague@ieee.org at least 5 days before the meeting.

The Program Chair is seeking suggestion from members for future presentations. Any ideas of interest to LM are open for consideration. Please contact Ronald Sprague Program Chair at r.sprague@ieee.org 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. For more details use the link

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

Activities: Technical meetings scheduled in February, May, October, and December. Elections are held at the December meeting.

Future Technical Meetings: All meeting are scheduled at the SRP PERA CLUB. It is suggested you put these dates on your calendar to attend our meetings.

- Tuesday, February 11, 2014
- Tuesday, May 13, 2014
- Tuesday, October 14, 2013
- Tuesday, December 9, 2014

Officers:

Chair	Leslie Daviet II	lesdavietii@cs.com
Vice Chair	Position is Vacant	
Secretary	Tom Lundquist	Tom.Lundquist@ieee.org
Treasurer	Leslie Daviet II	lesdavietii@cs.com
Program	Ronald L. Sprague,	r.sprague@ieee.org
Past Chair	A. Barry Cummings	abarrycummings@gmail.com



IEEE GOLD

Phoenix Section Affinity Group



IEEE Graduates of the Last Decade (GOLD) Phoenix Section Officers

- Chairman: Shafiul “Jacky” Islam (shafiul.islam@intel.com)
- Treasurer: Ashley Meredith (ashley.meredith@aps.com)
- Secretary/Webmaster: Joseph Caglio (joseph.m.caglio@intel.com)

Presentation Workshop – November, 15, 2013

A presentation workshop was organized by IEEE GOLD (Graduates of the Last Decade) Phoenix Section, in collaboration with IEEE Arizona State University Student Branch, IEEE-Eta Kappa Nu Epsilon Beta Chapter, IEEE WIE (Women in Engineering) Phoenix Section, IEEE Life Members Phoenix Section, and Intel AZWITLF (Intel Arizona Women in Technology Leadership Forum).

Presenting for Excellence

How many times do you sit through presentations that are full of text-filled slides and complicated charts and graphs? Besides being tedious, how much information do you really take away from these presentations?

The **Presenting for Excellence** workshop will show you how to prepare and deliver a presentation that people will pay attention to, remember, and act upon. This two-hour workshop will show you how to focus your message so that the important points are clear and memorable. You’ll learn how to design visually pleasing slides that convey your key points effectively, and develop your presentation skills to enable you to effectively present your message.

Who: Dave Hughes, Software Engineer, Assembly/Test Technology Development Automation Group, Intel Corporation

When: Friday, November 15, 2013 4:00—6:00 pm

Where: Room 487, Goldwater Center for Science & Engineering, ASU Tempe Campus, 650 E. Tyler Mall, Tempe, AZ 85287

<http://www.asu.edu/map/interactive/?campus=tempe&building=GWC>

Speaker Biography



Dave Hughes is a 17-year Intel veteran with over 33 years’ experience in the software industry. His varied industry experience includes eight years as a trainer and course developer and eight years as a highly-rated manager. Dave leads a series of Communicating for Extraordinary Results workshops and is a sought-after instructor for Strengthening Manager Skills and Building Trust.

Dave is an Area Governor in Toastmasters, and has achieved Advanced Communicator-Gold and Advanced Leader-Bronze. Dave has served as Master of Ceremonies for several Intel Software Professionals Conferences and Arizona Site Diversity Leadership

Awards, and has delivered various keynote speeches and lunchtime brown-bag presentations. Dave recently served as Intel’s Chief Ambassador. You may contact Dave at

dave@presentingforexcellence.com.

Event Pictures



Officers Meeting/Training – December 14, 2013

IEEE GOLD Officers met with Chuck Weitzel, IEEE Phoenix Section Chair, for discussing year-end financial paperwork. We met at Wells Fargo to submit the check that we received from the Phoenix Section (funds for 2013). After that we went for light lunch to celebrate our first year as a team of officers, reflect on 2013, and plan for 2014.

 **IEEE** **2014 IEEE Phoenix Section News**

View or down load the pictures from IEEE Phoenix Section Annual Banquet 2013 at: <http://sites.ieee.org/phoenix/category/annual-banquet/>

Executive Committee Meeting

Upcoming Meeting Tuesday, February 4, 2014
The Airport Hilton Phoenix,
2435 S 47th St. Phoenix, AZ 85034, (480) 894-1600.

2014 Executive Committee

Chair: Barbara McMinn
Vice Chair: Bruce Ladewig
Secretary: Surinder Tuli
Treasurer: Vivek Gupta
Past Chair: Charles Weitzel

Executive Committee Meetings

Date: First Tuesday of every month, except July and August

Time: 6:00 – 8:00 p.m.

Location: Hilton Phoenix Airport, 2435 South 47th Street, Phoenix, AZ 85034

IEEE Phoenix Section Annual Banquet 2014

IEEE Phoenix Section is holding the Annual Banquet 2014 on Saturday, February 8th, 2014, from 6:00 PM to 9:30 PM at Hilton Phoenix Airport located at 2435 South 47th Street, Phoenix, AZ – 85034.

The agenda for the banquet includes:

6:00 PM – 7:00 PM Registration / Social Hour

7:00 PM – 8:00 PM Dinner

8:00 PM – 8:30 PM Keynote

8:30 PM – 9:30 PM Awards Presentation

The online banquet registration site will be accessible on January 1st, 2014 at <http://sites.ieee.org/phoenix>.

For additional information, contact Dr. Vasudeva P. Atluri, Section Awards Committee Chair, at (480) 227-8411 (Cell) and by email at vpatluri@ieee.org, or Dr. Charles E. Weitzel, Section Chair, at (480) 292-0531 (Cell) and by email at c.weitzel@ieee.org.

IEEE Senior Member and Fellow Grade

IEEE Phoenix Section Membership Development would like to nominate eligible IEEE Members from the Section to Senior Member and Fellow Grades. Please review the requirements at www.ieee.org for eligibility.

Eligible candidates are requested to send in their resumes to Dr. Vasudeva P. Atluri, Membership Development Coordinator, at vpatluri@ieee.org and Dr. Charles E. Weitzel, Section Chair, at c.weitzel@ieee.org for consideration.

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.

IEEE Phoenix Section Ventures into Social Media

We have made good progress in our Facebook page so far.

We have 43 people who Like this page (subscribers). Our first goal is to reach 500 likes by end of this year.

The activity chart shows that between 100 to 160 people are accessing this page every week.

You can access the web page three ways:

Use the URL: <https://www.facebook.com/IEEEPhoenixSection>

Click on the Facebook logo link from IEEE Phoenix section home page. <http://sites.ieee.org/phoenix/>

Search for IEEE Phoenix Section from your Facebook page.

We need following help.

1. Each of you access the IEEE Phoenix Section Web page and click on "Like" hyperlink.
2. Go on the Friends section of the page and "Invite Your Friends." Once you click on Invite button, it will get your email contact list. Your facebook contact list will already be populated with your Facebook friends and you can simply click the Invite button next to their name. Please invite as many friends as you can.
3. Provide me the contents for posting on a regular basis - meeting/ event announcements, Event pictures, Videos.
4. Start some discussion topics under - Status section.

If you have any questions, please call me.

Thanks for you help in advance.

I will send out regular reminders as well to make sufficient progress.

Vivek Gupta
Pace Chair
IEEE Phoenix Section

480-734-0266

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. Please contact IEEE Phoenix Section Membership Development Chair, Dr. Vasudeva P. Atluri, at vpatluri@ieee.org for additional information.

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 Member's Benefits

IEEE-USA's Free E-Books to Members

October Free E-Book

IEEE-USA E-Books is offering “Engineers Can Write! Thoughts on Writing from Contemporary Literary Engineers” this month free to IEEE members.

Award-winning author Tom Moran explores the similarities and differences found in writing and engineering; offers thoughts on how engineers can conceptualize their writing to improve their reports, articles, proposals and other documents; and shows why many engineers are able to write very well.

Each of the engineer authors Moran features has been successful in the world of literature -- poems, shorts stories, novels -- and their competence with language undermines any claims that engineers can't write.

“Many engineers are excellent writers, adroit at taking on technology’s toughest challenges, and using language to clearly and cogently describe what they have learned,” Moran writes. “Indeed, engineering’s history has been marked by important works written clearly and competently by engineers.”

“Engineers Can Write! Thoughts on Writing from Contemporary Literary Engineers” can be downloaded at www.ieeeusa.org/communications/ebooks/files/z382n9i/Engineers-Can-Write.pdf for free to IEEE members. The nonmember price is \$9.99.

January Free E-Book

In January, IEEE-USA E-Books will offer “Starting Your Start-Up – Book 1: Developing a Business Plan” by Tanya Candia.

The “Starting Your Startup” series is designed for the engineer or entrepreneur who has a promising product or service idea but no real marketing expertise. Book 1 shows you how to develop an initial business plan that contains just enough information to get started. It will help you define your concept clearly and concisely, build an effective elevator pitch, communicate your product and company positioning, and identify your critical success factors.

“Starting Your Start-up – Book 1: Developing a Business Plan” can be downloaded in January at <http://www.ieeeusa.org/communications/ebooks/files/6ni3nslk/Starting-Your-Start-Up-Book-1.pdf> for free to IEEE members. The non-member price is \$9.99.

To purchase IEEE members-only products, and to receive the member discount on eligible products, members must log in with their IEEE Web account.

Call for Authors

IEEE-USA E-books seek authors to write an e-book, or an e-book series, on career guidance and development topics. If you have an e-book idea that will benefit members on a particular topic of expertise, email your proposal to IEEE-USA Publishing Manager Georgia C. Stelluto at g.stelluto@ieee.org, and IEEE-USA E-Book Chair Gus Gaynor at g.gaynor@ieee.org.

IEEE-USA advances the public good and promotes the careers and public policy interests of 206,000 engineering, computing and technology professionals who are U.S. members of IEEE.

Web: www.ieeeusa.org

Facebook: www.facebook.com/ieeeusa

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Join IEEE: www.ieee.org/join

Contact: Sharon C. Richardson, Coordinator
IEEE-USA Communications & Publishing
Phone: 1 202 530 8363
E-mail: s.richardson@ieee.org

GoogleApps@IEEE Now Available to IEEE Members

GoogleApps@IEEE is a suite of products offered to IEEE members to enhance peer-to-peer communications and collaboration. The suite of applications includes e-mail, calendaring, contacts, and document sharing along with other collaborative tools. 30G of available cloud storage memory is

available for these applications. Learn more about <http://www.ieee.org/googleapps>

GoogleApps@IEEE is available to members at no additional cost, bringing access to:

- A unique IEEE e-mail address (e.g., John.A.Doe@ieee.org);
- Mail forwarding or e-mail inbox (Gmail);
- 30-gigabytes of shared storage (Gmail and Google Drive);
- 99.9 percent up time guaranteed by Google;
- Advertisement-free Gmail;
- Files stored in the cloud for easy sharing and access from anywhere via Google Drive.

Dues Renewal: A Time to Inspire the Future

The altruism and generosity of IEEE members and friends enabled the IEEE Foundation to award US\$3 million last year to technology programs that:

- Empower the worlds brightest young minds;
- Encourage impactful ideas and creative solutions;
- Share the history and evolution of ground breaking ideas;

IEEE Foundation and IEEE thank all of you who have donated and shown a strong commitment to the founding ideas and principles of IEEE.

While renewing your IEEE Membership, take time to reflect on how your IEEE Membership has influenced your career and enhanced your opportunities. Then consider making a donation to support the programs and projects important to you. Giving through your IEEE renewal is just one way you can support the work of IEEE and continue to make a difference. You may choose to designate your donation, in any amount, to one or more funds listed in your renewal packet. You may also donate online at <http://www.ieee.org/organizations/foundation/DonateOnline.html>, anytime.

There is so much more that we can accomplish together to inspire the future and enable the impact of IEEE. Visit <http://www.ieeefoundation.org/> and learn more about:

- maximizing your donation through your employers Matching Gift Program at <https://www.ieee.org/organizations/foundation/matchinggifts.html>;
- Donor recognition groups (<http://www.ieee.org/organizations/foundation/donorrecognition.html>) such as the IEEE Heritage Circle, the IEEE Goldsmith Legacy League, the Advocates Association and the Leadership Association;
- our activities on <https://www.facebook.com/IEEEFoundation> and Twitter;
- making your gift electronically at <http://www.ieee.org/organizations/foundation/DonateOnline.html>