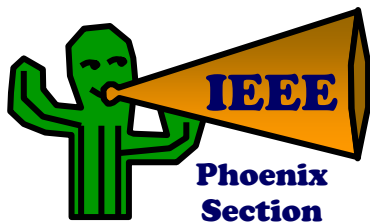


The Valley Megaphone

Newsletter of the
**Institute of Electrical and
Electronics Engineers, Inc.,
Phoenix Section**
May, 2015
Volume XXIX, Number 5



Executive Committee 2015

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TBD

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that page)

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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?qid=2765918>
and on Facebook at:
<https://www.facebook.com/IEEEPhoenixSection>

Please send announcements for the *Valley
Megaphone* to Wei Xu at Wei.Dr.Xu@ieee.org for
inclusion in the Section Calendar.

**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

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EMBS Chapter

TBD

EMC Society

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Teacher-In-Service

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Waves & Devices Society

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Life Members

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Women In Engineering

Shamala Chickamenahalli
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Young Professionals

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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

Update from DeVry Phoenix-Engineering Student Branch

DeVry University is reestablishing the student branch after a long dormant period. We are holding one meeting a month for general business and would like to have one meeting a month with a guest speaker. Any suggestions or volunteers for guest speakers would be greatly appreciated. This month we are responsible for facilitating and judging the Engineering Competition at the Arizona Championship of SkillsUSA. This has been a great opportunity for our members to learn about the competition process and give back to the community.

Hannah Sprague
Chair, IEEE DeVry Student Branch
hspragueIEEE@gmail.com

Student Branches

ASU Main, Engineering

Chair: Phoebe Henson
480-888-6396,
pghenson@asu.edu
Advisor: Cihan Tepedelenlioglu,
480-965-6623, cihan@asu.edu

ASU Main, Computer Society

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

ASU Polytechnic

Chair: Josh Carrol
jkcarrol@asu.edu
Advisor: : Dr. John M. Parsey, Jr.,
480-727-5279
John.Parsey@asu.edu

DeVry, Phoenix – Computer Society

Chair: Zak Burgess
602-749-4518
burgess.zak@gmail.com
Advisor: Roger S. Gullledge
602-749-4586
rgullledge@devry.edu

DeVry, Phoenix – Engineering

Chair: Hannah Sprague
602-749-4518
hspragueIEEE@gmail.com
Advisor: Roger S. Gullledge
602-749-4586
rgullledge@devry.edu

NAU, Engineering

Chair: Jeremy Johnson
Advisor: Niranjana Venkatraman
v.niranjan@ieee.org

Embry-Riddle, Prescott

Chair: Lisa M. Ferguson
FERGUSL2@my.erau.edu
Advisor: John E. Post
postj@erau.edu

U – Newsbytes

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 and defense, computer forensics, information security, cyber-physical and trustworthy systems, and net-centric computing, embedded systems, autonomous systems, and physical computing. Significant industrial, entrepreneurial and/or teaching experience would strengthen a candidate's credentials, but recent graduates are encouraged to apply.

Apply online at www.erau.edu/jobs and search for positions at Prescott.
Contact Professor Post at john.post@erau.edu for further information.

Update from DeVry Phoenix-Engineering Student Branch

The DeVry University Engineering Student Branch had the fortunate opportunity to facilitate the Engineering Competition at the Arizona Championship of Skills USA last month. As a team, we provided support staff, DeVry student & faculty judges for 13 high school teams from all over Arizona. The high school students came prepared to give a presentation on an engineering project that they had worked on. In addition to giving their prepared presentation and answering questions about their projects, we also provided them with an on-site engineering project to demonstrate their problem solving and teamwork abilities. We came up with a real world engineering project where the teams were required to build a tower at least 2 feet tall that would support the weight of a water bottle in 30 minutes. To add a real world feel to the project, we provided the teams different supplies that they could use and a budget to buy the supplies with. We awarded extra points to the teams that built their tower to specs and came in with the lowest budget spent. We were encouraged to see that many of the teams were able to grasp the concept that bigger and stronger is not always necessary. In the real world, money drives business and it is about meeting a requirement for the least amount. It was very energizing for us to see the bright prospects in the next generation and look forward to our next community project.

Hannah Sprague

Chair, IEEE DeVry Student Branch

hspragueIEEE@gmail.com



Update from Embry-Riddle Student Branch

The Embry-Riddle Aeronautical University IEEE Student Branch would like to send an update of their activities in the month of April. Our chapter hosted a SPAX on April 14th, focusing on career development. About twenty students and several faculty members were in attendance at the event. Two professors from the university spoke about their experiences in industry and gave advice on how to have successful careers. At the last meeting of the year students received the polos they had ordered. The new officers were also introduced to the rest of the members in attendance.

Update from ASU Polytechnic Student Branch

IEEE Club Meeting #3
April 27, 2015 6:05pm, Peralta Crow's Nest

Attendance:

- Josh Carroll
- Praveen Sinha
- Shaun Atkinson
- Elizabeth Long
- John Parsey
- Neil Flippin

Membership – 15 students as of 4/21/15

Agenda:

- Talk about the Club direction for the fall and coming year

Action Items:

- Fixing the Robotics Club's power supply for their Drill
- Contacting Interest Groups with IEEE
 - Meeting with Phoenix IEEE Chapter
 - Electronic Devices Conference during the Summer
 - ASU provides access to IEEE databases
 - Making contacts within the professional community
- Full access to Autodesk
- Introductions
- Working with Robotics Club
 - Getting more funding
- Working with High Schools on robotics projects/ competitions
 - Could count for community service
 - Gives more interaction with electrical components
- Speakers
 - Once a month
 - Tesla Speaker
- Cross-integration between Robotics club to get more members
- Sponsored Webinars
 - New Jersey IEEE sponsored speakers
 - Run by Josh as well
 - Collect topics



Upcoming Conferences in Region 6

Hello IEEE Student Members!

[2015 IEEE/MTT-S International Microwave Symposium - MTT 2015](#) will be held May 16 to 22, 2015

[2015 85th ARFTG Microwave Measurement Conference \(ARFTG\)](#) will be held on May 22, 2015

[IEEE REGION 6 CAREER AND TALENT EXPO](#) will be held on JUNE 1-30, 2015

[2015 IEEE Workshop on Automatic Speech Recognition and Understanding \(ASRU\)](#) will be held Dec 13 to 16, 2015

Metro Area Workshop

We are trying to plan an all day workshop here in Phoenix for the spring of 2015. It will be for learning and networking and will be kept affordable so that everyone who wants to attend can. We are planning on having a keynote speaker and then break into a number of classes all day, with breaks for snacks, lunch, and networking.

Anyone who would like to volunteer to help or is able to teach a class, please contact me at Phoenix.conferences@ieee.org or bradscientist@ieee.org

We are also planning on having exhibits for the attendees to learn about new companies, products, and to meet other people. The booths will be reasonably priced, and if anyone is interested, please contact me at the email listed in the lines above.

Upcoming Conferences

2015 IEEE-USA Conferences Calendar

(Co-sponsored and/or where IEEE-USA has an Exhibition Booth)

When	Where	Conference
14-17 May	Milwaukee, Wis.	IEEE-USA Annual Meeting (AMTC2015)
14-15 May	Milwaukee, Wis.	2015 IEEE Great Lakes Biomedical Conference (GLBMC)
1-30 June	Online	IEEE Region 6 Virtual Career and Talent Expo
14-19 June	New Orleans, La.	IEEE Photovoltaic Specialists Conference (IEEE PVSC 2015)
26-30 July	Denver, Colo.	IEEE Power & Energy Society General Meeting (PES GM 2015)
30 July - 1 August	Ogden, Utah	IEEE Conference on Technologies for Sustainability (SusTech 2015)
26-27 September	Queens, N.Y.	World Maker Faire New York (<i>IEEE-USA Shared IEEE Booth</i>)
October	Vancouver, British Columbia	IEEE International Symposium on Ethics in Engineering, Science, & Technology (ETHICS 2015)
8-11 October	Seattle, Wash.	IEEE Global Humanitarian Technology Conference (GHTC)
19 -23 October	Shenzhen, China	International Conference on Connected Vehicles & Expo (ICCVE)
26-28 October	Lehigh Valley, Pa.	IEEE NewNEB DC Power Utility Conference & Exhibition (NewNEB)
12 December	Philadelphia, Pa.	IEEE Signal Processing in Medicine and Biology Symposium (SPMB)
14-16 December	Orlando, Fl.	IEEE International Conference on Wireless for Space & Extreme Environments (WiSEE)



International Microwave Symposium
IEEE 17 – 22 May 2015 Phoenix, AZ MTT-S



Come join us in Phoenix and enjoy the flagship Microwave Theory and Techniques Society (MTT-S) Conference

The IEEE Microwave Theory and Techniques Society's 2015 International Microwave Symposium (IMS2015) will be held **17 - 22 May 2015** at the Convention Center in Phoenix, Arizona as the centerpiece of Microwave Week 2015. IMS2015 offers technical sessions, interactive forums, plenary and panel sessions, workshops, short courses, industrial exhibits, application seminars, historical exhibits, and a wide variety of other technical and social activities including a guest program. As usual, the Microwave Week 2015 technical program also comprises the RFIC symposium (www.rfic2015.org) and the ARFTG conference (www.arftg.org). Unique to Microwave Week in 2015, a High School Science and Engineering Invitational will be held.

With over 9,000 participants and 800 industrial exhibits of state-of-the-art microwave products, Microwave Week is the world's largest gathering of Radio Frequency (RF) and microwave professionals and the most important forum for the latest research advances in the field.

Call for Papers

Authors are invited to submit technical papers describing original work on Radio-Frequency, microwave, millimeter-wave, and terahertz (THz) theory and techniques. The deadline for submission is **8 December 2014**. Please refer to the IMS2015 website (www.ims2015.org) for detailed instructions concerning paper submission. **Please don't wait** until the last day to start using the paper submission process. Those unfamiliar with the process may encounter paper formatting or clearance issues that may take time to resolve. The Symposium proceedings will be recorded on electronic media and archived in IEEE-Xplore. Authors of accepted papers should consider submitting an extended version of their symposium paper for possible publication in the *IEEE Transactions on Microwave Theory and Techniques*.

Emerging technical areas:

IMS2015 enthusiastically invites submission of papers that report state-of-the-art progress in technical areas that are outside the scope of those specifically listed in this Call for Papers, or that may be new to the symposium, but are of interest to our attendees.

Student paper and student design competitions:

Eligible students are encouraged to submit papers for the student paper competitions. In addition, eligible students or student teams are invited to consider taking part in student design competitions during the IMS2015, which are organized and sponsored by various Technical Committees (TC) of the MTT-S Technical Coordination Committee (TCC). Please visit the IMS2015 web site for full details.

MicroApps:

The Microwave Application Seminars serve as a forum for exhibitors at the IMS to present the technology behind their commercial products and their special capabilities. The presentations are open to all conference and exhibit attendees. All submissions must be made through email to microapps@ims2015.org. Please refer to the IMS2015 website for more information on submitting MicroApps technical papers.

We are looking forward to meeting you in Phoenix and sharing some of the hottest new microwave ideas under the sun!



THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.

IEEE COMPONENTS, PACKAGING AND
MANUFACTURING TECHNOLOGY SOCIETY

IEEE Components, Packaging and Manufacturing Technology Society Phoenix Chapter

2015 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
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Secretary	Dr. Rao Bonda	(480) 786-7749	r.bonda@ieee.org
Treasurer	Dr. Vasudeva P. Atluri	(480) 227-8411	vpatluri@ieee.org
Program Chair	Mr. David Dougherty	(480) 245-8099	david.dougherty@freescale.com
Asst. Program Chair			
Tutorial Chair	Dr. Shawn Shi	480-929-5614	Songhua.Shi.2011@ieee.org
Asst. Tutorial Chair			
Workshop Chair & Publicity	Dr. Vasudeva P. Atluri	(480) 227-8411	vpatluri@ieee.org
Website Co-Chair	Bharat Penmecha	(480) 552 2511	bharat.penmecha@ieee.org
Website Co-Chair	Huiyang Fei	(480) 552 4966	Huiyang.H.Fei@ieee.org

Tentative Schedule for Monthly Seminars

Date	Topic	Speaker
Feb. 18, 2015	Packaging & Failure Analysis Challenges in Advance 3D packages	Dr. Deepak Goyal
Mar. 18, 2015	High Spatial Resolution Strain Mapping in TEM using Precession Electron Diffraction	Dr. Amith Darbal
April 22, 2015	Dicing Blade Selection & Troubleshooting	Sol M. Eskinazi
May	No Seminar due to IMS-2015 in Phoenix	
June 17, 2015	Materials Characterization: A Model for Open Access	Leroy Eyring Center, ASU
July		
August		
September		
October		
November		
December		



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, June 17th, 2015 at 5:30 PM

Materials Characterization: A Model for Open Access

Jeff Luth / Emmanuel Soignard / Karl Weiss / Barry Wilkens

LeRoy Eyring Center for Solid State Science

Arizona State University | Tempe, AZ | Jeff.Luth@asu.edu

ABSTRACT

Materials characterization is integral to successful semiconductor process & product development. In the academic environment, characterization provides data necessary to validate the research approach. When research is translated to the commercial environment, characterization speeds time to market and thus revenue. In the case of defect analysis, successful characterization can lead to significant cost-avoidance. However, access to sophisticated characterization tools and techniques can be a challenge. Forty-one years ago, ASU recognized these challenges and created a model for a multi-user facility – the LeRoy Eyring Center for Solid State Science. LE-CSSS provides users across a wide variety of scientific disciplines with open access to a portfolio of tools and techniques for materials characterization and high resolution imaging. The Center is particularly well-suited to characterizing semiconductor materials. Integrating three ASU laboratories, LE-CSSS leverages a wide array of analytical capabilities; optimizes equipment utilization; trains researchers to operate instruments independently; provides educational workshops; and supports industrial and other academic users with techniques to which they might not otherwise have access.

SPEAKERS

Jeff Luth directs the Industrial Associates Program for ASU's LeRoy Eyring Center and manages relationships with companies across the country. Jeff is former VP Corporate Communications for Amkor Technology.

Dr. Emmanuel Soignard manages the Goldwater Materials Science Facility. Emmanuel has been with LE-CSSS for 8 years.

Karl Weiss manages the John M. Cowley Center for High Resolution Electron Microscopy. Karl has been with LE-CSSS for 30 years.

Barry Wilkens manages the Ion Beam Analysis of Materials (IBeAM) Facility. Barry has been with LE-CSSS for 23 years.

Date: Wednesday, June 17th, 2015

Location: Group Conference Room, Freescale Semiconductor, Inc., Discovery Business Center, 2100 E. Elliot Rd. Tempe, AZ. Enter the facility through the Main (South) Lobby in building 94 and sign in with Security (*Photo ID required*) **BEFORE 6:00 PM**. You will be escorted to the meeting room. The presentation promptly starts at **6:00 PM**.

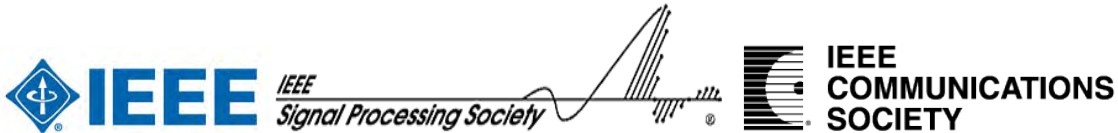
Agenda: 5:30–6:00 PM: Social/Refreshments, 6:00–7:00 PM: Presentation, 7:00 PM: Dinner
(Pizza and Soda will be provided by the IEEE Phoenix Section CPMT Society Chapter)

IEEE members and non-members are all welcome to attend.

Please arrive at the facility entrance no later than 5:45 PM.

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

Vasu Atluri	(480) 227-8411	Rao Bonda	(480) 786-7749	David Dougherty	(480) 413-6923
Vivek Gupta	(480) 734-0266	Bharat Penmecha	(480) 552-2511	Mahesh Shah	(480) 544-9438
Shawn Shi	(480) 929-5614	Huiyang Fei			



SP-COM Phoenix Chapter

Please join our Google Group!

Please join our increasingly popular Google group to get the most up-to-date information about the society's activities. We have now over 50 members who are availing of this facility. Email traffic is thin, and used only to send meeting notices. No spam !

<https://groups.google.com/d/forum/ieee-sp-com-phoenix-chapter>

**In addition, we continue to post meeting notices on IEEE vtools at
(<https://meetings.vtools.ieee.org/main>)**



Phoenix Chapter of the IEEE Computer Society May, 2015

News

- The chapter meeting dates for the remainder of 2015 are listed below along with the venues, if known at this time.
 - June 3rd ITT Technical Institute, Tempe
 - August 5th Devry University, Phoenix campus
 - October 7th TBD
 - December 2nd ITT Technical Institute, Central Phoenix

Meetings will be held from 6:00 pm to 9:00 pm. We will publish information for each of these meetings as soon as it is known.

- The April chapter meeting was held on Wednesday, April 1st, at the Phoenix Central campus of the ITT Technical Institute. The presenter at this meeting was Mark Goldstein, a versatile presenter who has spoken to our chapter in the past. The presentation was excellent and well received.
- The June 3rd meeting will be held at the ITT Technical Institute in Tempe. The program for the June 3rd meeting has been confirmed. A speaker from Hypertec, a Canadian company that has recently initiated plans for a major facility in Tempe will profile thoughts about the future of computing, software as a platform and other topics.

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	Dr. Brad Morantz	bradscientist@ieee.org
Secretary	Audrey Skidmore	askidmore@computer.org
Treasurer	Diane Smith	sdianesmith@computer.org
Webmaster	Audrey Skidmore	askidmore@computer.org



**IEEE Power and Energy Society
Phoenix Chapter**
<http://www.ewh.ieee.org/soc/pes/phoenix/>



May 2015 Luncheon Meeting

Date: Thursday, May 21, 2015

Time: 11:30 - 11:45 am: Registration
11:45 am: Lunch
12:00 pm: Program

Location: SRP PERA Club ([map](#))
1 E Continental Dr
Tempe, AZ

Speaker: Rudy Navarro, Director of Generation Engineering, SRP

Topic: Environmental Challenges for Coal Generation

Cost: \$8.00 (No cost if you are a college student)

Reservations: Contact Monica at [\(602\) 470-0400](tel:6024700400) or submit your name [here](#).
Reservations deadline is NOON on Monday, May 18, 2015.
If you have already registered for this luncheon but need to cancel, click [here](#).

Abstract:

Discuss current and future challenges relating to coal generating assets including:

- Regional Haze Regulation
- Mercury and Air Toxins (MATS) Rule
- Coal Combustion Residuals (CCR) Regulation
- The Clean Power Plan - Carbon Rules

Biography:

Rudy Navarro is Director of Generation Engineering for Salt River Project (SRP) in Phoenix, Arizona. In this role he is responsible for a multi-disciplined engineering team which supports all of SRP's generating facilities with engineering, project management and outage support services. Rudy has over 20 years of experience in the power industry and has worked at various generating stations as a controls engineer, Plant Engineer and as an O&M Manager responsible for Operations, Maintenance and Engineering. He also served six years in the U.S. Navy in the Naval Nuclear Power program. Rudy received a Bachelor of Science degree in electrical engineering from the University of Arizona.



WAVES AND DEVICES

PHOENIX CHAPTER

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

2015 Event Calendar



Chapter Chair: Steve Rockwell steve.rockwell@ieee.org
 Chapter Vice-Chair: Trevor Thornton t.thornton@asu.edu

<u>Date</u>	<u>Venue</u>	<u>Topic / Title</u>	<u>Speaker</u>	<u>Affiliation</u>	<u>IEEE Society</u>
25-Feb	ASU	Thermal Challenges in Mobile Devices and Potential Solutions	Mulugeta Berhe	Henkel	Electron Devices
26-Feb	ASU	Impact of Be-doping on the material properties of InAs/InAsSb type-II superlattices for infrared detection	Elizabeth Steenberger	Wright-Patterson Air Force Base	Photonics
27-Mar	ASU	Advanced Antenna Systems for Satellite Communication Payloads	Sudhakar Rao	Northrop Grumman	Antennas
20-Apr	ASU	Surface Acoustic Wave Devices – Challenges for Technology Development in Modern Communication Systems	Richard Gruenwald	Vectron	Ultrasonics
22-May	ASU	Microwave and Millimeter Wave Power Amplifiers: Technology, Applications, Benchmarks, and Future Trends	Jim Komiak	BAE	Microwaves
22-May	ASU	Overview of Different Numerical Solvers for Electromagnetic Applications	Felipe Cátedra	Univ. of Alcalá, Madrid, Spain	Antennas
Aug					
23-Sept	ASU	Modern Methods for Microwave Filter Synthesis	Richard Cameron	MTT Dist. Lecturer	Microwaves
Oct					
Nov					

For more information, contact:

Steve Rockwell (WAD Chapter Chair) (480) 241-9891

steve.rockwell@ieee.org

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



“Microwave Theory & Techniques” and “Antennas & Propagation” Society
Meeting Free & Open to Non-IEEE Members

5 to 7:30PM, Friday, May 22, 2015

*Arizona State University, Goldwater Center, GWC487
650 E. Tyler Mall, Tempe, AZ*

Curtis Scott (WAD Chapter Publicity) (623) 703-9177 curtiscott@gmail.com

IEEE WAD Double Header:

1) Overview of Different Numerical Solvers for Electromagnetic Applications

Prof. Felipe Cátedra, University of Alcalá, University of Alcalá, Madrid, Spain

Abstract 1

An overview shall be provided for numerical solvers used for the analysis of arbitrary electromagnetic problems, including GO (Geometric Optics), PO (Physical Optics), GTD (Geometrical Theory of Diffraction), UTD (Uniform Theory of Diffraction), Stationary Phase Method (SPM), MoM (Method of Moments), MLFMM (Multilevel Fast Multipole Method), CBFM (Characteristic Basis Functions Method), etc. The applications for these numerical solvers to various analysis and design problem geometries shall be discussed, specific solvers to be used for problem categories shall be identified, the limitations of each solver shall be identified, the computer resources required for each solver shall be defined, the accuracy achievable for each solver shall be defined, etc. A discussion of the different errors that can be encountered with these solvers including the meshing steps and methods to use to avoid these errors will be discussed. Several applications for the solvers will be addressed: RCS (Radar Cross Sections) of any target alone, above sea/land, and with/without RAM (Radar Absorbing Material) coatings; large antennas like reflectors (cassegrain, inverse cassegrain, conformal surfaces, and reflectarrays/transmitarrays) and phased arrays; antenna placement on large platforms; patch antennas and surface conformed antennas; MIMO (Multiple Input Multiple Output) systems; automobile antennas; radiowave propagation indoor, urban (outdoor), and rural scenarios, etc.

Biography 1

Prof. Manuel F. Catedra, IEEE Fellow, received his M.S. and Ph. D. degrees in Telecommunications Engineering from the Polytechnic University of Madrid (UPM) in 1977 and 1982, respectively. From 1976 to 1989 he was with the Radiocommunication and Signal Processing Department of UPM. He has been a Professor at the University of Cantabria from 1989 to 1998, and is currently a Professor at the University of Alcalá, Madrid, Spain.

2) Microwave and Millimeter Wave Power Amplifiers: Technology, Applications, Benchmarks, and Future Trends

Dr. James J. Komiak, BAE (Distinguished Microwave Lecturer with MTT-S)



Abstract 2

Solid State Transistor Device Technology is ubiquitous in communications, radar, electronic warfare, and instrumentation applications. This presentation will cover Si BJT, Si LDMOS, MESFET, HBT, PHEMT, InP HEMT, MHEMT, and GaN HEMT. Content includes principles of operation, structures, characteristics, classes of operation, and device state of the art benchmarks. The art of power amplifier design is approached from a historical perspective. Power amplifiers utilizing these device technologies covering UHF through sub-millimeter wave are described including amplifier state of the art benchmarks. Future trends are highlighted and summarized.

Biography 2

James J. Komiak received a Ph.D. in Electrical Engineering from Cornell University in 1978. Currently he is a BAE Systems Global Engineering/Scientific Fellow at Electronic Systems in Nashua, NH. He has over 100 publications and 11 patents. Elected to the grade of IEEE Fellow in 2005. His work is represented in the MTT Symposium MMIC Historical Exhibit - "World's First Octave Band MMIC with Power Output in Excess of 10 Watts (1989)". Dr. Komiak is a IEEE MTT-S Distinguished Microwave Lecturer (2014-2016).

Date: **Friday, May 22, 2015**

Time: **5:00 PM Presentations**
Pizza will be served following the Seminar (approximately 7:30PM)

Location: Goldwater Center, GWC487, Arizona State University, [650 E. Tyler Mall, Tempe, AZ](http://www.asu.edu/tyler-mall)

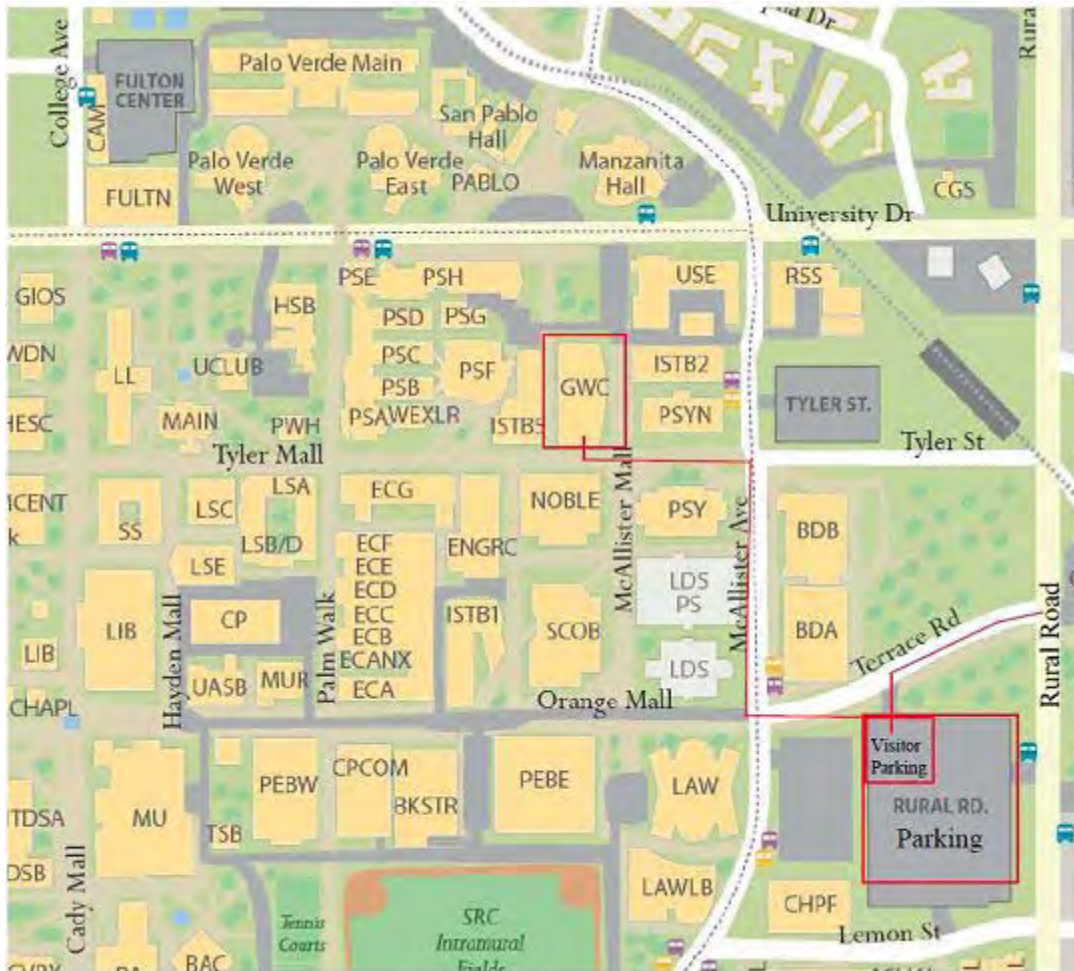
For more information, contact:

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Curtis Scott (Chapter Publicity)

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(623) 703-9177 curtis.scott.us@ieee.org

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

Goldwater Center – GWC – Room 487
Building is across from Noble Science Library





IEEE Phoenix Section
Women in Engineering
Affinity Group



STEM Volunteering opportunity at IEEE IMS Conference

Representatives of the IEEE Phoenix Section **Women in Engineering (WIE) Affiliate group (AG)** are preparing to participate in the STEM activities during the upcoming IMS Conference in May at the Phoenix Convention Center, Downtown Phoenix. We are seeking up to 20 volunteers per session to participate on May 21st to help with the various STEM activities during the day. Please refer to the VTools meeting instance below for details and to sign up.

<https://meetings.vtools.ieee.org/m/34174>

If you have additional questions please contact Shamala.Chickamenahalli@intel.com

Chair: Shamala Chickamenahalli (Shamala.Chickamenahalli@intel.com)

Vice-Chair: Lesley Polka (lesley.a.polka@intel.com)

Secretary / Publicity: Divya Kalimuthu (divya.kalimuthu@intel.com)

Treasurer: Diane Smith (diane@web-oasis.com)

Web Master: Audrey Skidmore (ASkidmore@azmag.gov)

If you would like to be added to our distribution list for further information about this and future events, please contact Divya Kalimuthu (divya.kalimuthu@intel.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



Phoenix Section Life Member Affinity Group

Technical & Administrative

Meeting May 19, 2015

Program Presentation: DIGITAL ARRAY RADAR (DAR)

Digital phased arrays, where signals are digitized at each element, have become increasingly ubiquitous in recent years because of the raw flexibility and multi-functionality they stand to offer. At the same time, any new phased array system must contend with increasing demands on system-level performance, spectrum utilization, and, most significantly, cost. This presentation will highlight the work done over the last decade during and following the development of the Army Digital Array Radar (DAR) Demonstrator at Purdue University to help pave the way towards a low-cost digital phased array solution. The overall system concept, arrayed aspects of low-cost transceivers, and integration of high-power GaN devices within an antenna panel will all be discussed, along with more recent work in making use of the DAR to address the antenna, system, and calibration-related challenges associated with the use of these low-cost arrays in the important emerging application area of Multifunction Phased Array Radar (MPAR). Finally, the talk will summarize current efforts at the University of Oklahoma's Advanced Radar Research Center to take the DAR concept to the next level using recent advances in low-cost transceiver technologies and the onward march of Moore's Law.

Presenter: Dr. Caleb Fulton

Dr. Fulton received the B.S. and Ph.D. degrees in electrical and computer engineering from Purdue University, West Lafayette, IN, USA, in 2006 and 2011, respectively. He and is now an Assistant Professor in Electrical and Computer Engineering at the Advanced Radar Research Center, University of Oklahoma, Norman, OK, USA. His work focuses on antenna design, digital phased array calibration and compensation for transceiver errors, calibration for high-quality polarimetric radar measurements, panel-level integration of direct-conversion transceivers and high-power GaN devices, and advanced digital beamforming design considerations. Dr. Fulton is a member of the IEEE Antennas and Propagation and Microwave Theory and Techniques Societies. He was the recipient of the Purdue University Eaton Alumni Award for Design Excellence in 2009 for his work on the Army Digital Array Radar (DAR) Project, as well as the Meritorious Paper Award for a summary of these efforts at the 2010 Government Microcircuit Applications and Critical Technologies Conference. He is currently working on a number of digital phased array research projects.

NOTE MEETING STARTS AT 11 AM

Meeting Agenda:

11AM: Attendee introductions

11:15 AM: Program Presentation

New officer's report.

Program chairs will review the results of survey taken to determine LM interests for technical presentations.

Continued discussion of LMAG program for student assistance and possible scholarship program for HS students.

Administration Meeting.

Where: SRP's **PERA Club** Bighorn Room,
1 East Continental Drive, Tempe, AZ
Continental is West of 68th St., ½ mile south of McDowell Road
Enter the Private PERA Club and follow drive to large parking lot. Big Horn Room is the most South east building off parking.

When: Tuesday, **May 19, 2015 - 11:00am – 1:00pm**, Registration fee is \$15. This fee will include lunch provided by the PERA Club.

Lunch: TBD

RSVP: Please advise Ronald Sprague r.sprague@ieee.org if you plan to attend so accounting for lunch is possible.

Technical Presentations: The Program Chairs are seeking suggestion from members for future presentations. Any ideas of interest to LM are open for consideration. Please contact Ronald Sprague or Barry Perlman Program Chairs at r.sprague@ieee.org and/or barry.perlman@gmail.com.

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.

Activities: Technical meetings scheduled the 3rd Tuesday of 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 the meetings.

- Tuesday May 19, 2015
- Tuesday October 20, 2015
- Tuesday December 15, 2015

Officers:

Chair	Leslie Daviet II	lesdaviatii@cs.com
Vice Chair	Jim Tang	JFTANG@cox.net
Secretary	Tom Lundquist	tom.lundquist@ieee.org
Treasurer	Leslie Daviet II	lesdaviatii@cs.com
Membership Program	Rao Thallam	Rao.Thallam@gmail.com
	Ron Sprague	r.sprague@ieee.org
	Barry Perlman	barry.perlman@gmail.com
Volunteer	Gary Frere	gary.frere@gmail.com
Past Chair	Barry Cummings	abarrycummings@gmail.com



IEEE

youngprofessionals

IEEE Young Professionals Phoenix Section Executive Board 2015

Chair: Jennifer Taggart (jennifer.taggart@asu.edu)

Vice Chair: Nick Spirakus (nmspirak@asu.edu)

Secretary/Webmaster: Harshad Surdi (hsurdi@asu.edu)

Treasurer: George Chen (gchen32@asu.edu)

Past Chair: Shafiul "Jacky" Islam (shafiul.islam@intel.com)

Member: Joseph Caglio (joseph.m.caglio@intel.com)

March 17, 2015 Networking Mixer with IEEE/IEEE-HKN ASU and IEEE Phoenix Young Professionals

It was a brilliant Arizona spring evening when ASU HKN IEEE members gathered with industry members to discuss navigating through senior year and finding a place they could call home for 40+ hours a week. Young Professionals from Intel, ON Semiconductor, Texas Instruments, and General Dynamics gathered at Buffalo Wild Wings on March 17, 2015 to share their experiences with graduating and finding a job with Arizona State University students.

George Chen and Nick Spirakus from IEEE Phoenix YP board helped organize and coordinate the event.



April 18, IEEE R6 Southwest Area Meeting at in San Diego

Shafiul "Jacky" Islam, as IEEE R6 SWA Awards Chair, served as one of the judges for Student Poster Contest and announced the top three winners. Jacky also made announcement about the special session for Young Professionals at IMS.

May 17-22, 2015 International Microwave Symposium at Phoenix Convention Center

The IEEE MTT International Microwave Symposium (IMS) is the premier annual international meeting for technologists involved in all aspects of microwave theory and practice. It consists of a full week of events, including technical paper presentations, workshops, and tutorials, as well as a full set of social events. The symposium also hosts a large commercial exhibition featuring over 550 companies. (<http://www.ims2015.org/>)

Special Session: The IEEE MTT-S Young professionals presents a special session on Tuesday titled "Young Professional Discussion Forum: Awaken the Entrepreneurial Genius in You! ". It features dynamic entrepreneurial speakers and panelists discussing various aspects of entrepreneurship. (<http://www.ims2015.org/about-microwave-week/young-professionals/young-professional-session>.)

Complementary Reception: The IEEE MTT-S Young Professionals invite all young professionals, student members and guests to a complimentary reception at Lucky Strike following the session on Tuesday, May 19, 2015. Shafiul "Jacky" Islam and Jennifer Taggart from IEEE Phoenix YP board will be there as IEEE Global Young Professionals Representative.



2014 IEEE Phoenix Section News

Executive Committee Meeting

No meeting of Executive Committee in July & August

Normal meetings are on first Tuesday of the month from 6:00 PM to 8:00 PM
The Airport Hilton Phoenix,
2435 S 47th St. Phoenix, AZ 85034, (480) 894-1600.

2015 Executive Committee

Chair: Bruce Ladewig
Vice Chair: Surinder Tuli
Secretary: Vivek Gupta
Treasurer: Mahesh Shah
Past Chair: Barbara McMinn

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 Photos are Posted at:

<http://sites.ieee.org/phoenix/2014/03/03/pictures-from-the-2014-annual-banquet/>

IEEE-Phoenix Section Annual Banquet 2015 Photos will be Posted soon.

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.

You can also go to IEEE Phoenix Section LinkedIn page by clicking  button on the [IEEE Phoenix Section home page](#)

IEEE Phoenix Section Ventures into Social Media

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](#).

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.

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

Refer a Colleague, Get Great Merchandise!

In conjunction with IEEE-USA, IEEE is excited to continue this special offer for U.S. members.

Refer a colleague to IEEE. If they join before the end of the membership year, they'll get a 50% discount off their first year membership, and you'll get a gift. IEEE-USA gift items you can choose from include:

Cooler backpack	Computer backpack
Portable solar battery charger	Tablet case
Portable speaker	Parker pen and mechanical pencil set
Parker ballpoint pen	Travel coffee mug and tumbler set
Golf balls	Baseball hat
Golf umbrella	Travel umbrella

Members remain eligible to receive incentives through the existing IEEE Member-Get-a-Member (MGM) program. How it works:

- Refer your colleague via the [online form](#).
- Your referral will receive an e-mail inviting them to join at a 50% discount off first-year membership dues, and will receive benefits through 31 December.

- Your referral will provide your IEEE member number when he or she joins.
- Within 1-2 weeks after your referral joins, you will receive an e-mail confirming your recruiting success, including a link which allows you to select your IEEE-USA merchandise item.
- You will receive a separate e-mail for each new member you recruit.

Please help spread the word and share your IEEE experience - no one knows how beneficial IEEE Membership is to technical and career development better than you, the member. [Refer your friends and colleagues today!](#)

IEEE-USA Webinar: Job Interviews and Leadership

On 11 March 2015 at 2:00 PM EST IEEE-USA will provide training to help you prepare for your job interview. This webinar, *Job Interviews*, presents efficient interview processes, what to expect, and how you present yourself. The Presenter Dr. Tarek Lahdhiri will also focus on the different interview types, what really matters during the interview and topics to avoid.

On 13 March 2015, at 1:00 PM EST, Elizabeth Lions, author and renowned speaker will address the topic of "Leadership" in the second of a three-part webinar series. In this three-part series, Ms. Lions will address what is appropriate for new leaders, anyone contemplating a move into a leadership role, and visionary process for defining goals for your team. She will examine the criteria by which leaders are measured: team assessment, training, hiring, firing and building a workflow plan.

[Join IEEE-USA for two more great installments to its webinar program.](#)

Free IEEE-USA eBook Offered as Special Benefit to IEEE Members

WASHINGTON (1 April 2015) -- IEEE-USA E-books is offering "Starting Your Start-Up -- Book 3: Competitive Analysis" free to IEEE members starting today.

The "Starting Your Start-Up" e-book series, by Tanya Candia, is designed for the engineer or entrepreneur who has a great product or service idea but no real marketing expertise.

"Book 3" guides you through the competitive landscape for a better understanding of who the competition is and why it's important to see things the way customers see it. It helps you develop an effective positioning strategy, determine the true value of your products or services, and find ways to ensure ideal solutions.

Candia emphasizes that readers must have a clear understanding of their competitors to close deals, make real revenue, get the attention of prospective customers and receive funding. She includes a brainstorming session to find out who the competition is.

From 1 April to 15 May, IEEE members can get a free download of "Starting Your Start-Up -- Book 3: Competitive Analysis" by going to IEEE-USA Shop at <http://shop.ieeeusa.org/usashop/product/careers/76134>. Log in with your IEEE Web account, add the book to your cart and use promo code APRILFREE at checkout.

MAY FREE E-BOOK

In May, IEEE-USA E-books will offer "Doing Innovation -- Book 4: What It Takes to be an Innovator" by Gus Gaynor.

This publication focuses on a critical element of innovation -- the innovator. What do they bring to an organization, and what characteristics and attitudes do they display?

Call for Authors

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

at g.gaynor@ieee.org.

IEEE-USA serves the public good and promotes the careers and public policy interests of more than 200,000 engineering, computing and technology professionals who are U.S. members of IEEE.

Web: www.ieeeusa.org
Facebook: www.facebook.com/ieeeusa
Twitter: www.twitter.com/ieeeusa
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

IEEE Mentoring Program

IEEE MentorCentre is the online mentoring platform for IEEE. This is a valuable resource for IEEE members seeking a professional mentoring partnership. That means all the best practices you have come to expect from an IEEE mentoring program are in place, with ample opportunity to enter a unique mentoring partnership not found anywhere else.



What you will find with IEEE MentorCentre:

- The ability to connect with mentors based on specialized areas of practice, experience, IEEE Societal affiliation and more;
- Opportunities to give back to the profession by registering as a mentor;
- Additional fields to narrow down the preferred profile of the mentor, and;
- Improved mentor controls allowing them to control how they are viewed in the system.

Participation in the program is voluntary and open to all IEEE members above the grade of Student member.

[Access IEEE MentorCentre](#)

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.