

The Valley Megaphone

Newsletter of the
**Institute of Electrical and
Electronics Engineers, Inc.,
Phoenix Section**
March 2010,
Volume XXIV, Number 3



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IEEE Phoenix Section on-line updates can be found on our Web site at:

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

and on LinkedIn at:

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

Please send announcements for the *Valley Megaphone* to Satish Ayer at satish.ayer@ieee.org and to Russ Kinner at r.kinner@ieee.org for inclusion in the Section Calendar.

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U – News

(for Student Members)

IEEE STUDENT PAPER CONTEST (See the Link Below for Application)

The Student Paper Contest is an excellent opportunity for visibility on student project work you are doing and to the University you are attending, as Papers are reviewed and selected by the Phx Executive Committee for a presentation at the Regional Event (good visibility for Phx Section also). Please take the opportunity to review requirements and submit your paper.

SCHOLARSHIP, CHAPTER and ADVISOR AWARDS at FEB BANQUET!

Recipients of the IEEE Phx Section Scholarship, Branch and Advisor Awards were present at the Annual Banquet which was very well attended. ASU Main and Embry Riddle Aeronautical University (ERAU) received the Chapter Participation Awards with Branch Advisor Dr. Edward Post (ERAU) receiving award for continued direction and support to their Student Branch. Scholarships awarded to Logan Hennessey and Elijah Brown (both ERAU) Vijay Sundaram, Chaturvedi Gogineni, and Songnan Wu (from ASU) with Sunku Ranganath (ASU) receiving a special award for support to Branch.

BRANCHES NOMINATING OFFICER CANDIDATES FOR 2010 - 2011

This is an important time of year as Student Branches and nominating and will be voting on the Student Branch Officers for 2010 - 2011. Each and every Student Member is encouraged to consider supporting their Branch in positions as an Officer or through support on the varied events being planned. Branch Officers have an excellent opportunity to interface with IEEE Section Executive Committee with Branch Reporting presented at Monthly Meetings.

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Student Activities Chair

Student Branches

ASU Main, Engineering

Chair: Harshini Yerra
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ASU Main, Computer Society

Chair: Nicholas Vaidyanathan
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ASU Polytechnic

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Advisor: TBD

DeVry, Phoenix

Chair: TBD
Advisor: Diane Smith
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DeVry, Computer Society

Chair: TBD
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NAU, Engineering

Chair: Kenji R. Yamamoto
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Advisor: Niranjana Venkatraman
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Embry-Riddle, Prescott

Chair: Tim Lemm
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Advisor: John E. Post
postj@erau.edu

U – Newsbytes

- ASU Polytechnic is currently seeking Advisor for the Student Branch. Please email Nick (at email address above) with Recommendations
- ERAU is planning an S-PAC Event in April and inviting Students from other Universities to participate. Details will be published as available.
- Student volunteers are being enlisted by the IEEE Event Organizers for IECON 2010 in Glendale, AZ. Details to be published as available.

See the Section Web site for updated forms for both the Student Paper Contest <http://www.ewh.ieee.org/r6/phoenix/StudentPaper.htm> and Scholarships <http://www.ewh.ieee.org/r6/phoenix/Scholarships.htm>.



36th Annual IEEE Industrial Electronics Conference (IECONN 2010)



7-10 November 2010, Greater Phoenix AZ

Call for Participation

Industrial Electronics Conference (IECON) is an IEEE international conference on industrial applications of electronics, control, robotics, signal processing, computational and artificial intelligence, sensors and actuators, instrumentation electronics, computer networks, internet and multimedia technologies. The objectives of the conference are to provide high quality research and professional interactions for the advancement of science, technology, and fellowship. Papers with new research results are encouraged for submission. IECON'10 is being held concurrently with the 4th IEEE International Conference on E-Learning in Industrial Electronics (ICELIE'10) and the Industry Forum. Participation in all three events just requires the IECON'10 registration fee. Industry, research, and academia are cordially invited to participate in the wealth of presentations, tutorials, exhibits, plenary sessions, and social activities for the advancement of science, technology, engineering education, and fellowship. Accepted and presented papers will be published in the respective conference proceedings, and included in the IEEE *Xplore*® online digital library and EI Compendex database. Detailed information about manuscript submission is available at the following website:

<http://iecon2010.njit.edu>

Important Dates for Authors:
Contributed papers: 26 April 2010
Tutorial proposals: 3 May 2010
Special Session proposals: 1 March 2010
Notification of acceptance: 1 July 2010
Final submissions due: 6 September 2010



**IEEE EMC Society
Phoenix Chapter
Next Meeting**



Date: Wednesday, April 7th, 2010
Place: Garcia's Mexican Restaurant at Embassy Suites Hotel
Address: 4400 South Rural Road, Tempe, Arizona,
Just South of U.S. 60 on West side of Rural Rd.
Time: 5:30PM Social, 6PM Dinner (order off the menu), 7PM Meeting
Title: Engineering Aspects of PCB Level EMC Design
Speaker: Dr. Sergiu Radu, Principal Engineer at Sun Microsystems

Abstract: The PCB design is a complex cooperation between electrical, mechanical, thermal, SI, PI and EMC design. In a practical design, the EMC design engineer has to make trade-offs and understand the relative impact of different design choices. The lecture is an overview of the typical PCB design aspects and their role for the EMC performance. Among the aspects discussed are placement, stack-up, routing, decoupling, and grounding aspects. The design of the I/O ports, in order to pass the emissions and immunity tests, is also discussed in greater detail.

Biography: Dr. Sergiu Radu is currently Principal Engineer at Sun Microsystems, leading the EMC Design group in Menlo Park, California. His role at Sun includes the development and implementation of architectural frameworks for EMC Design through design guidelines and best practices, and to provide forward looking solutions, root cause analysis of significant EMC problems, design methodologies involving software simulations and better prediction techniques. Sergiu Radu received a M.S. and a Ph.D. in Electrical Engineering (Electronics) from Technical University of Iasi, Romania, and until 1996 he was an Associate Professor at the same university, involved in Electromagnetic Compatibility teaching and research. From 1996 until 1998 he was a Visiting Scholar at the University of Missouri-Rolla, as part of the Electromagnetic Compatibility Laboratory. In 1998 he joined the EMC Engineering group at Sun Microsystems. Sergiu holds seven US patents for EMI reduction techniques in electronic systems and has published more than 50 papers in research journals, symposia, and magazines. He is a reviewer for IEEE Transactions on EMC. He is also a distinguished lecturer for the IEEE EMC Society.

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



Embry-Riddle SPAC 2010



Saturday April 10th

- Summary:** IEEE Student Professional Awareness Conference (SPAC) is a formal dinner event that aims to bridge the gap between students and their career goals. SPAC offers students and employers a unique opportunity to network with each other in a professional environment along with professionals and academics representing the field of Engineering.
- Date:** Saturday, April 10th 2010
- Place:** Embry-Riddle Aeronautical University
- Address:** 3700 Willow Creek Rd.
Prescott, AZ 86301
- Time:** 6:00 PM
- Contact:** Tim Lemm
lemmt@my.erau.edu
(913)775-1485
- Ticket Prices:** Students (\$15)
Non-Students (\$20)

Waves and Devices**Phoenix Chapter**<http://ewh.ieee.org/r6/phoenix/wad/>**2010 Calendar**

Date	Time	Location	Topic / Title	Speaker	Affiliation	IEEE Society
27-Jan	5:30 PM	Agilent, Chandler	Digital Pre-Distortion for high linearity RF Power Amplifiers	Dr. John Wood	Freescale	ED & MTT
3-Feb Jointly Sponsored w/ ASU Center of Nanophotonics	1:30 PM	ASU, GWC-487	Si Photonics: Towards Lasers on Silicon	Dr. Sangam Chatterjee	Philipps-Universität Marburg Marburg, Germany	Photonics Center of Nanophotonics
Thursday Feb. 4	4:00 PM	Agilent, Chandler	Roth IRA Conversions – What You Need To Know	Mr. Greg Wojak	LPL Financial	General Interest
Friday Feb. 19	4:00 PM	ASU Brickyard	Non-Foster Reactances for Electrically-Small Antennas, High-Impedance Surfaces, and Engineered Materials	Dr. Jim Aberle	ASU	AP & MTT
Wed March 3 Jointly Sponsored w/ ASU Center of Nanophotonics	1:30 PM	ASU, GWC-487	Microscopic modelling and experimental results on high-power VECSELS	Prof. Dr. Stephan W. Koch	Philipps-Universität Marburg Marburg, Germany	Photonics and ASU Center of Nanophotonics
Wed. March 17	6:00 PM	Agilent, Chandler	High Speed Photonics for Space Applications	Dr. Davis Hartman	General Dynamics	Photonics
Friday Apr. 9	4:00 PM	ASU GWC-487	State-of-the-Art Time-Domain Measurement and Modeling Techniques for Non-linear Components & Systems	Dr. Christopher Silva	The Aerospace Corp.	MTT
April-May	TBD	Agilent, Chandler	IEEE's role in International Relations and Engineering Education	Dr. Barry Perlman	IEEE / Army	General
14-May		ASU Brickyard	DARPA Research	Dr. Robert Reuss	Consultant, Format DARPA program manager	General
25-Jun		Agilent, Chandler	Overview of NASA's Next Generation Manned Space Vehicle, Orion	Mr. William Boger	General Dynamics	MTT
23-Jul		TBD	Rough-Metal-Surface Propagation Loss Modeling	Dr. Henning Braunsch	Intel	MTT
Aug		TBD	mm-wave device characterization & modeling	Dr. Marcel Tutt	Freescale	ED & MTT
Sep		ASU	Wireless Networks for Medical Implant Devices	Dr. Sayfe Kiaei	ASU	ED, MTT, & AP

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



**Institute of Electrical and Electronic Engineers
Waves and Devices Phoenix Chapter**

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



Photonics Society Meeting

1:30 PM, March 3rd, 2010

***Sponsored jointly with the Center of Nanophotonics, Arizona State University**

Microscopic modelling and experimental results on high- power VECSELS

Prof. Dr. Stephan W. Koch

Philipps-Universität Marburg
Marburg, Germany

stephan.w.koch@physik.uni-marburg.de

Abstract

Silicon A microscopic theory is used to model the optical properties of semiconductor laser materials and modern devices. Typically, these devices are structured on the nanoscale such that any quantitative modelling requires a consistent quantum mechanical theory. In this talk, we show how such a many-particle approach can be used to compute the laser gain, absorption, photoluminescence as well as the radiative and Auger recombination processes. The predictive power of this modelling is demonstrated by detailed comparisons to quantitative experiments. In particular, so-called VECSEL (Vertical External Cavity Surface Emitting Laser) systems are analyzed. It is shown that systematic design studies allow for device optimization for a wide variety of different application conditions, such as high output power, emission at a particular wavelength, or low threshold [J.V. Moloney, J. Hader, and S.W. Koch, 'Quantum Design of Semiconductor Active Materials: Laser and Amplifier Applications', *Laser & Photonics Reviews* **1**, 24 - 43 (2007)]. Based on the microscopic quantum design, VECSEL structures have been grown and tested experimentally. Examples of these results are shown and record high-power emissions are discussed.

Biography

Stephan W. Koch has been a professor of Physics at Philipps-University Marburg (Germany), and an adjunct professor at the Optical Sciences Center, University of Arizona since 1993. He spent eight years, first as associate professor, then as professor of Physics and Optical Sciences at the University of Arizona, was a Heisenberg Fellow at the University Frankfurt, Germany in 1985, and a visiting scientist at IBM Research in 1981 and 1983. Prof. Dr. Koch received his MS and PhD in Physics from the Goethe-University Frankfurt (Germany) in 1977 and 1979, respectively. His fields of major current interests include condensed matter theory, optical and electronic properties of semiconductors, many-body interactions, disorder effects, quantum confinement in solids, coherent and ultrafast phenomena, semiconductor laser theory, microcavity effects, and optical instabilities and nonlinearities. He is a Fellow of the Optical Society of America, a member of the German Physical Society and is the author or co-author of 7 books, editor of 1 book, and author or co-author of more than 500 publications in refereed scientific journals with more than 12,000 citations leading to an h-index of 59.

Date: **Wednesday, March 3rd, 2010**

Location: **Arizona State University, Main Campus, Goldwater Center
(GWC) Rm 487**

Enter building through main (south) lobby and take elevator to fourth floor. Go north down the west hallway, the conference room is on the right.

See <http://www.asu.edu/map/> for map.

Time: **1:20 PM *Refreshments Served*; 1:30-2:30 PM *Presentation*;
2:30 PM *Discussion***

For more information, contact: Shane Johnson at shane.johnson@asu.edu

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



**Institute of Electrical and Electronic Engineers
Waves and Devices Phoenix Chapter**

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



Meeting Free & Open to Non-IEEE Members

6:00 PM, Wednesday, March 17th, 2010

**Agilent Sales Office, 4330 West Chandler Blvd, Chandler
(East side of Stellar Business Center Office Park)**

High Speed Inter-Satellite Laser Communications

David Hartman

General Dynamics - AIS

Abstract

Next generation communications systems for space applications require unprecedented demand for bandwidth. Space-borne information gathering systems are overwhelmed by data volume. This presentation will discuss system design approaches and real world examples of high speed free space laser communications links for inter-satellite and ground link communications

Biography

Davis H. Hartman received his B.S. degree in physics from Upsala College, NJ, in 1970, Ph.D. degree in physics from the University of Arizona in 1977. Since then has worked for Bell Telephone Laboratories, Motorola, Bell Communications, engaged in research in various optical communications systems, and is currently a systems engineer with General Dynamics working on business development opportunities in space electronics.

Date: Wednesday, Mar. 17th, 2010

**Location: [Agilent Sales Office, Suite 367, 4330 West Chandler Blvd., Chandler AZ 85226](#)
(In Stellar Business Center on North side of Chandler Blvd west of McClintock Rd.)**

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

For more information, contact:

Steve Rockwell (WAD Chapter Chair) (480) 241-9891 steve.rockwell@ieee.org

Chuck Weitzel (Chapter Publicity) (480) 292-0531 c.weitzel@ieee.org

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



INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS
Waves and Devices - Phoenix Chapter
Microwave Theory & Techniques Society Meeting
Meeting Free & Open to Non-IEEE Members



4:00 PM, Friday, April 9, 2010

Arizona State University, Goldwater Center, GWC-487

State-of-the-Art Time-Domain Measurement and Modeling Techniques for Nonlinear Components and Systems

Dr. Christopher P. Silva, The Aerospace Corporation

Abstract

The increasing demands for performance, mobility, and services in difficult physical channel and frequency allocation environments, in both commercial wireless and military contexts, pose formidable new challenges to communications designers. Arguably the most important of these major challenges is the classical trade between power efficiency and performance-limiting nonlinear distortion of the amplifiers used in such systems. This balance is exacerbated by the use of non-constant envelope modulations needed to achieve high bandwidth efficiencies, as well as multi-carrier protocols to simultaneously support many users. Current activity in these areas has especially focused on the system-level modeling of solid-state power amplifiers, with concomitant efforts on efficiency enhancement and distortion compensation, the latter in the form of predistorters, linearizers, and equalizers. Refined nonlinear measurement and modeling approaches will be required to successfully support these efforts, which will only escalate in difficulty with the use of increasingly complex and broader bandwidth signaling schemes.

This presentation introduces and describes highly accurate baseband time-domain measurement and modeling techniques applicable to nonlinear communication components and systems having bandwidths ranging up to several GHz. It will begin with an overview and comparison of time-domain versus frequency-domain measurements as they pertain to nonlinear components and systems. The development and details of a baseband time-domain measurement technique and system will follow, which provides state-of-the-art measurement accuracies of time-domain waveforms. The important, but often neglected issue of what model fidelity is required to support the accurate estimation of system performance metrics, such as the ubiquitous bit error rate (BER), will be addressed. A survey of some common frequency-domain blackbox modeling approaches will be described and evaluated, indicating their inadequacies for wideband and complex modulations. Finally, an introduction will be given of a new systematic approach, termed the polyspectral method, which is based on time-domain input/output measurements involving operational modulated signals. This method provides a powerful set of tools, and numerous benefits for the state-of-the-art nonlinear modeling and distortion compensation of communications systems. This claim will be illustrated by a polyspectral model variant for both solid-state and traveling-wave tube amplifiers, as well as a brief survey of the method's application to distortion compensation design/evaluation.

Biographies

Dr. Christopher P. Silva received the B.S., M.S., and Ph.D. degrees, all in electrical engineering, in 1982, 1985, and 1993, respectively, from the University of California at Berkeley. Professor Leon O. Chua directed his graduate work with an emphasis on nonlinear circuit and system theory. He joined the Electronics Research Laboratory of The Aerospace Corporation in 1989 and is currently a Senior Engineering Specialist in the Communication Electronics Department, Communications & Networking Division. He has been the principal or co-investigator on several internally funded research projects addressing nonlinear microwave CAD, private/secure communications and radar by means of chaos, stability analysis of nonlinear circuits, and the measurement, modeling, and compensation of nonlinear satellite communications channels, the latter of which has become an advanced technology development for several military space programs. He has given many invited talks at conferences, society meetings, universities, industry, and laboratories on the applications of nonlinear techniques to communications and signal processing, along with corresponding publications in various venues. Dr. Silva is a Fellow of IEEE, a Senior Member of AIAA, and a member of AAAS, AMS, and SIAM

Date: **Friday, Apr. 9th, 2010**

Time: **4:00 PM *Presentation*, Pizza will be served following the Seminar**

Location: **Arizona State University, Main Campus, Goldwater Center (GWC) Room 487**
Enter building through main (south) lobby and take elevator to fourth floor. Go north down the west hallway, the conference room is on the right.
See <http://www.asu.edu/map/> for map.

For more information, contact:

Steve Rockwell (WAD Chapter Chair) (480) 241-9891 steve.rockwell@ieee.org
Chuck Weitzel (Chapter Publicity) (480) 292-0531 c.weitzel@ieee.org

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



Power & Energy Society Announcements



Palo Verde Plant Tour

We would like to thank the membership for their patience with the need to reschedule the Plant tour, and for contributing to a great day. The Phoenix PES extends our gratitude to the Plant personnel for conducting a successful event.

March 2010 Technical Meeting

Date: Thursday, February 18, 2010

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

Location: SRP

Speaker: Dr. Keith Holbert, Associate Professor
ASU Department of Electrical Engineering

Topic: An Update on Nuclear Power in the US

Summary:

As of September 2009, the NRC has received 17 construction and operating license applications (COLAs) for 26 new nuclear power reactors, with COLAs an additional five units expected. The new nuclear power plants are sited primarily in the eastern U.S. Recessionary times have led to difficulty in financing such large capital projects; however, the U.S. Department of Energy is in the final stages of selecting winners of \$18.5 billion in loan guarantees for new nuclear construction. Meanwhile in the Southwest, there is interest in nuclear for both electricity generation and desalination

Future Technical Meetings

April 15th APS

May 20th SRP

Sep 16th APS

Oct 21st SRP

Nov 18th APS



IEEE Phoenix Life Member Affinity Group

About IEEE Phoenix Section Life Member Affinity Group:

The Phoenix group was organized in 2008 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. IEEE "Life" status is an automatic process when a member is least 65 year of age and has been a member of IEEE or one of its predecessor societies for such a period that the sum of his/her age and his/her years of membership equals or exceeds 100 years. Dues and regional assessments are waived for a Life member. For more information use the link:

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

Our 2010 Officers are:

Chair	C. Bruce Johnson	cbj@johnsonscientificgroup.com
Vice Chair	Michel Ebertin	Michel@ebertin.net
Secretary	A. Barry Cummings	Barry.Cummings@srpnet.com
Treasurer	Leslie Daviet II	lesdavietii@cs.com
Program Chair	Ronald L. Sprague, P.E.	rlsprague@cox.net
Past Chair	Professor George Karady	karady@asu.edu



Computer Society Technical Meetings

Phoenix Chapter Website

www.ewh.ieee.org/r6/phoenix/compsociety



Next Monthly Meeting Chapter Meeting

Date: Tuesday, April 6, 2010 6:00 PM- 8:30 PM

Speaker: Dr. George Proeller, Colorado Technical University;
IEEE Computer Society Distinguished Lecturer

Title: "Personal Electronic Devices; iPODS, PDAs &
Cell Phones - a Forensics Discussion"

iPods, PDAs, and cell phones continue to merge in form, fit, and functionality and now include data acquisition (cameras, keyboards, usb ports, etc), data aggregation, and storage (some up to 80 gigabytes), and communications capabilities (IR, Bluetooth, wireless internet access, and cellular telephone). This presentation provides insights into the features and capabilities of such systems, their possible uses in unethical and possibly unlawful activities, and as discussion of the concepts of forensic analyses and approaches useful in combating such uses.

Location:

University of Advancing Technology, 2625 W. Baseline Road., Tempe, Az.
(near the corner of Baseline and 48th St.)

Networking will be from 6:00-7:00 P.M. with a light meal. Meeting Room number will be announced on our web site and via email to all of those on our mailing list at least one week prior to the meeting. **Presentation starts at 7:00 P.M.**

Free, everyone is welcome.



Computer Society Technical Meetings

Phoenix Chapter Website
www.ewh.ieee.org/r6/phoenix/compsociety



Phoenix Chapter of the IEEE Computer Society Saturday, March 13, 2010 Phoenix Chapter 3rd Annual BBQ/Picnic

Time: 4 pm until 6 pm

Place: Mesquite Pavilion, southwest side of Desert Breeze Park, Chandler, AZ.
(660 North Desert Breeze Boulevard East)

(Send your ticket orders to: sdianesmith@computer.org or jjcandelaria@ieee.org **before March 12th**, we'll put you on our 'pre-paid' list, and you can pay us at the picnic)

Cost:

\$2 for all students and kids

\$3 for Chapter members

\$5 for all non-students and guests

View the photos from last year's event on our web site:

http://ewh.ieee.org/r6/phoenix/compsociety/photo_gallery/photo_gallery.htm)

More details about Desert Breeze Park:

Railroad - <http://www.desertbreezerr.com/start.html>

Hummingbird Habitat - <http://www.chandleraz.gov/default.aspx?pageid=679>

Fishing Lake - http://www.azgfd.gov/h_f/urban_lake_desert_breeze.shtml



Computer Society Technical Meetings

Phoenix Chapter Website

www.ewh.ieee.org/r6/phoenix/compsociety



Future Events

- **March 13, 2010 – Computer Society Chapter Annual Picnic**
- **April 6, 2010 – University of Advancing Technology (48th St. & Baseline)**
 - Dr. George Proeller; “**Personal Electronic Devices; iPODS, PDAs and Cell Phones - a Forensics Discussion**”
- **May 4, 2010 - University of Advancing Technology (48th St. & Baseline)**
 - Prof. Adrian Sannier, and Prof. Raghu Santanam; ‘**Cloud Computing - Where it's At, Where it's Headed: Challenges and Possible Solutions**’
- **September 1, 2010 – DeVry University (Dunlap & 22nd Ave.)**
 - Jerry Crow; ‘**Cryptography, Part 1**’
- **October 6, 2010 – DeVry University (Dunlap & 22nd Ave.)**
 - Jerry Crow; ‘**Cryptography, Part 2**’
- **November 3, 2010 – TBA**
- **December 1, 2010 - TBA**

Please contact jjcandelaria@ieee.org or any of our officers to suggest a topic and/or speaker for any of our upcoming meetings.

Past Meetings

For information about any past meetings and presentation files, go to:

www.ewh.ieee.org/r6/phoenix/compsociety/meetings/meetings.htm



IEEE Phoenix Area Consultant's Network



Our current officers are:

President	Ronald L. Sprague, P.E.	r.sprague@ieee.org
Vice President	C. Bruce Johnson	cbj@johnsonscientific.com
Treasurer	Bill Morgan	bill.morgan@cox.net
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Member at Large	Ed Bawolek	bawolek@ieee.org

We have established a tentative schedule of programs for the next year, so we can all plan for future attendance.

Our meetings are held on the second Thursday of the month, unless otherwise indicated.

March 12 "Income Taxes for Consultants" David Isaac

April 25 PACN Picnic

We invite any of the IEEE Phoenix Section members and student members to attend our meetings, and we would like some inputs on program topics. Some of the topics we are considering for future meetings are:

SCORE assistance for Small Business Startups

The State of Arizona Mechanic's Lien Laws and their application to consultants

Engineering Registration requirements for offering Professional Engineering services

We will be happy to add any new topics, if they are of interest to the Phoenix Section Membership.



Engineers in the Classroom Support to Phoenix Schools by IEEE Retirees

The "IEEE Retirees Group For TISP" recently changed it's name to TISP/EIC (Teachers in Service/Engineers In The Classroom). The group has continued their tireless efforts in our community and will have delivered lesson plans to 13 schools, 59 classes (8 Elementary & 51 Middle School) for a total of 1,225 students by the end of May 2010. The IEEE Phoenix Section has a group of only 15 retired engineers who do all this work. The Arizona Republic even featured their "Here Comes The Sun" lesson plans which involves students building solar powered cars in the following article:

<http://www.azcentral.com/community/tempe/articles/2010/03/03/20100303-connolly-solar-cars-in-tempe.html>

Charles Slivinsky, David Leeper & Steven Zimmerman did two 6th grade classes at Phoenix Collegiate Academy, a new charter school in South Phoenix that focuses on the disadvantaged kids in that area last month.

- Only 6th grade this year; adding 7th grade next year and so on each year up through High School
- 35 students or less per class
- 2 hours per class (double periods)
- Tina Drews at SRP, who also serves on the board of the school referred EIC
- A very impressive school!
- 6th grade are already doing algebra
- EIC team did the "Sail Away" lesson plan and was very successful
- On the Friday students did Hovercrafts and Bernoulli demo with a toilet paper roll and leaf blower



David Leeper and Charles Slivinsky Teaching & Demonstrating Archimedes Principle



Steve Zimmerman Working With A Group



Testing And Racing



One Happy Group!

In addition, last month Eli Kawam, Richard Meyer, Don Cottrell, Michel Ebertin & John Purchase did five 7th grade classes at Connolly Middle School in Tempe, with 16 to 31 students per class. As mentioned before a reporter from the Arizona Republic attended one of the sessions.

- Tempe District School Superintendent referred EIC to the school
- The team did the "Here Comes The Sun" lesson plan which was a resounding success
- This brand new lesson plan was in development since November of last year
- Students did a lot of analysis of motors, torque, weight and array performance and built quite a few prototypes to test assumptions and conclusions



Dick Teaching Basic Electricity & Circuits



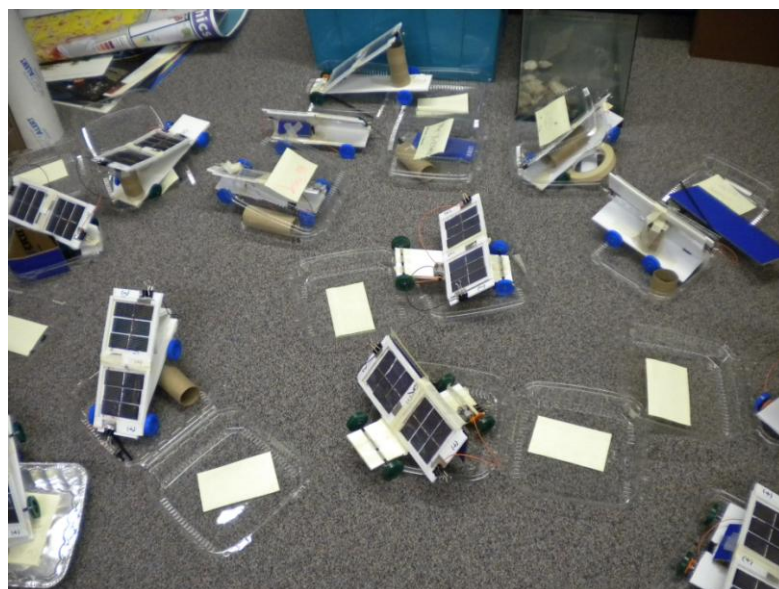
Demonstrating Series Circuits: Each Student Held Together Ends of Two Wires Between Pairs To Complete A Circuit Around The Whole Class to Sound A Buzzer



Michel, Don and Eli Help Out With Construction



Teacher, Sara Nicholls, With Don & Michel during Construction



A Selection of Completed Cars after One Class



Upcoming IEEE Conferences in Phoenix

The ***IEEE Industrial Electronics Society (IES)*** of the IEEE is holding **IECON 2010 - 36th Annual Conference of IEEE Industrial Electronics** 7-10 November 2010 in Glendale, AZ. For more information:

<http://iecon2010.njit.edu/>

The ***IEEE Microwave Theory and Techniques Society*** will sponsor the conference entitled **2011 IEEE Radio and Wireless Symposium (RWS)**. This conference will be held in Glendale, AZ on January 16-20, 2011.

For further information, please contact,
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Both of the above Conferences are being held at the Renaissance Glendale Hotel, Glendale, AZ. The hotel is adjacent to the Univ. of Phoenix Stadium and Jobing.com Arena at Westgate.

The ***IEEE Instrumentation and Measurement Society*** will sponsor the conference entitled **2010 IEEE International Workshop on Haptic Audio Visual Environments and Games (HAVE 2010)**. This conference will be held in Phoenix, AZ on October 16 - 17, 2010.

For further information, please contact,
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<http://have.ieee-ims.org/>

or Conference Business Services Dept., at IEEE Operations Center at +1 732 562 3878.
(Ed. Note: the link above has not yet been updated with the 2010 information as of the date of publication, February, 2010)

Phoenix Section Executive Committee Meeting **– First Tuesday of the month.**

Venue: Phoenix Airport Hilton, 2435 S 47th St, Phoenix, AZ, 85034
Tel.: 480-804-6017

More Info: Meetings are held on the first Tuesday of the month. All interested IEEE members are welcome to attend.

Contact: Dr. Henning Braunisch, Phoenix Section Chairman,
braunisch@ieee.org

IEEE Phoenix - Calendar of Events

You may access the IEEE Phoenix Section Calendar of Events at:

<http://ewh.ieee.org/r6/phoenix/Calendar.htm>

For inputs and updates to the Calendar, please contact the IEEE Phoenix Section Conferences Chair, Russ Kinner at 602-997-2353 or e-mail: r.kinner@ieee.org

Phoenix Section Present on LinkedIn!

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