The Valley Megaphone



Executive Committee - 2011

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m

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

at: http://www.linkedin.com/groups?gid=2765918 Please send announcements for the Valley Megaphone to Surinder Tuli at surinder.tuli@gmail.com and to Russ Kinner at .kinner@ieee.org for inclusion in the Section Calendar.

The IEEE Banquet pictures are up, see http://ewh.ieee.org/r6/phoenix/AnnualBanguet.ht

Chapters

Newsletter of the

Institute of Electrical and Electronics Engineers, Inc.,

> **Phoenix Section** September 2011,

Volume XXV, Number 9

Signal Processing & Communications David Frakes, 480-727-9284 dfrakes@asu.edu

Computer Society Jerry Crow jerry.crow@computer.org

> **CPMT Society** Vasudeva P. Atluri 480-227-8411 vpatluri@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 Chaturvedi Gogineni cgoginen@asu.edu.

Power & Energy Society Naim Logic, 602-236-3838 nlogic@ieee.org

Solid State Circuits Mohamed Arafa mohamed.arafa@ieee.org

Teacher-In-Service Mike Poggie mike.poggie@ieee.org

Waves & Devices Society Steve Rockwell steve.rockwell@ieee.org

Life Members Barry Cummings abarrycummings@gmail.com

Women In Engineering Shamala chickamenahalli shamala.chickamenahalli@intel. com

The Valley Megaphone is the newsletter of the Phoenix Section of the Institute of Electrical and Electronics Engineers. It is published monthly and reaches about 4000 members. Submit articles, advertisements, and announcements to Surinder Tuli at the above email address. Deadline for announcements and dvertisements is the third Friday of the month prior to publication. Advertising Rates: Full page: \$200, 3/4page: \$125, ½ page: \$75, 1/3 page: \$50, 1/4 page: \$25. Change of address/email? Call toll free 1-800-678-IEEE. Please allow 6-8 weeks. Section Web Page is: http://ewh.ieee.org/r6/phoenix/

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.

Nick Leonardi 480-720-1435 Cell <u>nleonardi@ieee.org</u> Student Activities Chair

Student Branches

ASU Main, Engineering Chair: Saurabh Naik, 480-252-0504, <u>svnaik@asu.edu</u> Advisor: Cihan Tepedelenlioglu, 480-965-6623, <u>cihan@asu.edu</u>

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

> ASU Polytechnic Chair: TBD Advisor: TBD

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

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

NAU, Engineering Chair: TBD Advisor: Niranjan Venkatraman <u>v.niranjan@ieee.org</u>

Embry-Riddle, Prescott Chair: Tim Lemm timothy.lemm@erau.edu Advisor: John E. Post posti@erau.edu

U – Newsbytes

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

Start your own MicroMouse and compete for cash prizes!

- The Section has a full tournament sized MicroMouse maze. Funding for your project may be available. For details contact the Section Student Activities Chair, Nick Leornardi at <u>nleonardi@ieee.org</u>.
- View pictures from the MicroMouse contest at the Southwest Area Spring 2010 meeting at http://picasaweb.google.com/ieeegoldphx/2010IEEESWASpringMeeting (photography by David Huerta, GOLD Affinity Group Chair) check with Nick



Phoenix Chapter of IEEE Signal Processing Society and Communications Society



Thanks to all of the attendees who made our August 17 technical meeting a success. More to come in the coming months...

Please contact Chapter Chair David Frakes (<u>dfrakes@asu.edu</u>) to volunteer or propose a speaker for upcoming meetings.





IEEE CPMT Society Phoenix Chapter is seeking volunteers to serve as Chapter Officers during remaining of 2010 and 2011. One has to be a member of IEEE CPMT Society to serve as the IEEE CPMT Society Phoenix Chapter Officer. If interested, please contact Dr. Vasudeva P. Atluri, Chair, IEEE CPMT Society Phoenix Chapter, by sending an email to vpatluri@ieee.org. Regards Vasu AtluriTel: (480) 227-8411 (C)



IEEE Power and Energy Society



Phoenix Chapter

News and Announcements:

- IEEE PES Phoenix Chapter was awarded the **Outstanding Chapter Award for 2010** at the IEEE Phoenix Section Annual Banquet.
- Want to know more about IEEE PES? Watch this video: <u>http://www.youtube.com/watch?v=BRKM4lpo_tk</u>
- IEEE PES Scholarship Plus Initiative: Scholarships for undergraduates pursuing electric power and energy: <u>http://www.ee-scholarship.org/</u>
- 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 the <u>IEEE Senior</u> <u>Member Program</u> website.

Schedule of Upcoming 2011 Events

September 2011 Luncheon Meeting

Date:	Thursday, September 15, 2011
Time:	11:30 am - 11:45 noon: Registration 11:45 noon: Lunch; 12:15: Program
Location:	TBD
Speakers:	Naim Logic, SRP, and Douglas Selin, APS
Торіс:	What Synchrophasor Technology Brings to the Power Grid of the Future? – Focus on WISP Project"
Cost:	\$5.00 (No cost if you are a college student)
Reservations:	Contact Nancy or Stacy at (480) 991-9191 Ext 10 or Ext 16

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

54th IEEE-PES FUNDRAISER GOLF TOURNAMENT



September 24, 2011 in Prescott, AZ

Be sure to join us at Antelope Hills Golf Course, located at 1 Perkins Drive, Prescott, AZ 86301, for a 1:00 PM Shotgun Start.

This is the annual fundraiser for your IEEE-PES Chapter. The fee is \$100 per player or \$400 to sponsor a foursome. Be sure to come early and stay late as there will be free range balls beforehand and dinner afterwards. Cash prizes awarded for first and second place teams. There will also be a Raffle, Skills Games, and Giveaways Galore.

We have a block of rooms reserved at the Holiday Inn Express, 3454 Ranch Drive, Prescott, AZ 86303. The phone number is (928) 445-8900 and remember to ask for the Special IEEE Room Rate. Space is limited so sign up early. Be sure to join us on Friday, September 23rd in the Holiday Inn Express Lobby for happy hour from 6:00-7:30PM, to include beer, wine and finger foods.

Use this sheet to sign up either individually or for your team. You can either:

- Print out and complete, then mail the form with your payment (Made out to IEEE/PES).
- Return this form electronically and then send your payment.
- Send payments to: IEEE-PES

c/o Young Power 7505 E Greenway Road Scottsdale, AZ 85260

You will be notified via email that your payment has been received and you are

registered to participate. If you have any questions, please feel free to call us at (480) 991-9191.

Please provide all requested information, including email addresses for all team members.

TEAM/SPONSOR

Player

Dinner?

Email

Player

Dinner?

Email

Player

Dinner?

Email

Player

Dinner?

Email

Dinner?

To minimize waste and extra costs, we would like your help getting an accurate dinner count.



E Phoenix Section Life Member Affinity Group

About IEEE Phoenix Section Life Member Affinity Group:

An IEEE member automatically becomes an IEEE "Life Member" status when at least 65 years of age and the sum of your current age and years of membership is 100. For more details use the link

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

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

Future Technical Meetings:

- Tuesday, October 11, 2011 SRP PERA CLUB
- Tuesday, December 6, 2011 SRP PERA CLUB

Officers:

Chair	A. Barry Cummings
Vice Chair	Michel Ebertin
Secretary	Tom Lundquist
Treasurer	Leslie Daviet II
Program Chair	Ronald L. Sprague, P.E.
Past Chair	C Bruce Johnson

Barry.Cummings@srpnet.com Michel@ebertin.net Tom.Lundquist@ieee.org lesdavietii@cs.com rlsprague@q.com cbj@johnsonscientificgroup.com







TISP/EIC IS SEEKING VOLUNTEER ENGINEERS TO HELP WITH THE NEW "ARIZONA SCIENCE LAB" VENTURE

THERE HAVE BEEN SOME EXCITING NEW DEVELOPMENTS IN THE "TEACHER IN SERVICE PROGRAM / ENGINEERS IN THE CLASSROOM":

THE ARIZONA SCIENCE CENTER AND IEEE TISP/EIC HAVE TEAMED TO PRESENT THE "ARIZONA SCIENCE LAB AT THE ARIZONA SCIENCE CENTER":

- This is a true laboratory facility in a central location for the Phoenix area schools
- The teachers bring their grade 5 to 8 science class (up to 60 students) to the Arizona Science Lab for the day
- EACH LAB WORKSHOP USES A LAB SETTING TO CONDUCT A PROJECT-BASED LESSON PLAN, COMPLETE WITH DEMONSTRATIONS, LECTURE AND A CONSTRUCTION PROJECT IN A SINGLE 4 HOUR SESSION (EXCLUDING BREAKS)
- EACH WORKSHOP IS CONDUCTED BY RETIRED AND EMPLOYED (ON DAY RELEASE) IEEE ENGINEERS
- The teachers choose a Lab Workshop from a list of ready-to-run Workshops that support the Arizona Science Education Content Standards
- THE WORKSHOPS WILL OPERATE DURING THE REGULAR SCIENCE CENTER HOURS: 10:00 AM TO 5:00 PM EACH WEEK DAY.

HENCEFORTH THE EIC GROUP WILL NOT BE GOING TO THE SCHOOLS BUT WILL INSTEAD BE IN THE ONE LOCATION: THE NEW ARIZONA SCIENCE LAB AT THE ARIZONA SCIENCE CENTER, AND THE SCHOOLS WILL COME TO US.

PLUS, INSTEAD OF CONDUCTING A LESSON PLAN OVER FOUR DAYS, WITH MULTIPLE CLASSES OF THE SAME GRADE IN EACH DAY, WE WILL HENCEFORTH BE CONDUCTING A SINGLE 4 HOUR SESSION (NOW TERMED "WORKSHOPS") ON THE ONE DAY WITH AROUND

60 KIDS OF THE SAME GRADE. THAT IS, THE LESSON WILL BE COMPLETED IN THE ONE 4 HOUR WORKSHOP.

Schools with multiple classes in a grade level will bring different groups on different days. The 60 kid limit can accommodate the kids from two regular school classes. A single workshop will be devoted to a single school. Ultimately we expect to be running workshops each day of the week and at some future time, multiple workshops in parallel each day.

Obviously this reduces our work load even if all our current schools were to book us for the new 2011/2012 school year as:

- We don't have to make four visits to each school, only one to the Science Center
- We don't have to carry all our equipment and materials around the Valley
- Each workshop is equivalent to two school classes in numbers of kids
- EACH VOLUNTEER CAN COMMIT TO ONE PARTICULAR DAY IN A WEEK INSTEAD OF FOUR, AND IT WILL BE IN A SINGLE CENTRAL LOCATION: THE SCIENCE CENTER.

So I AM ASKING YOU TO VOLUNTEER YOUR TIME AND LABOR TO SUPPORTING EIC IN THIS NEW APPROACH AND TO TELL ME (JPURCHASE@COX.NET) HOW MANY DAYS PER WEEK OR PER MONTH YOU WOULD BE AVAILABLE. IF YOU CAN ALSO SPECIFY WHICH WEEKDAY(S) YOU COULD SUPPORT, ALL THE BETTER. You are also welcome to email me any questions before making a commitment.

We will be starting the Lab as a pilot program at the beginning of September and fleshing out the operational details with the Science Center during the September pilot program before running full tilt for the rest of the school year.

I am looking forward to working with you, the rest of the EIC team, and the Science Center in this exciting new Science Lab venture!

John F. Purchase Arizona Science Lab Leader IEEE TISP/EIC jpurchase@cox.net (480) 921-3217 IEEE Phoenix Valley Megaphone September 2011







THE ARIZONA SCIENCE LAB AT THE ARIZONA SCIENCE CENTER

The Arizona Science Center and IEEE Teacher In Service Program / Engineers In The Classroom have teamed to present the Arizona Science Lab at the Science Center:

- ✤ THIS WHOLE PROGRAM IS ABSOLUTELY FREE TO THE STUDENTS, TEACHERS AND SCHOOLS
- * This is a true laboratory facility in a central location for the Phoenix area schools
- The teachers bring their grade 5 to 8 science class (up to 60 students) to the Arizona Science Lab for the day
- Each Lab Workshop uses a lab setting to conduct a project-based lesson plan, complete with demonstrations, lecture and a construction project in a single 4 hour session (excluding breaks)
- * Each Workshop is conducted by retired engineers who
 - Are highly qualified in math, physics, computers, software, etc.
 - Have "real world applications" experience and can relate the theory being taught to the everyday application
- The teachers choose a Lab Workshop from a list of ready-to-run Workshops that support the Arizona Science Education Content Standards
- * Each Workshop emphasizes the "Wow!" factor of hands-on construction projects

Building sail boats Building water











Building bottle rockets



FOR MORE INFORMATION, CONTACT: JOHN PURCHASE, SCIENCE LAB LEADER <u>JPURCHASE@COX.NET</u>

480-921-3217





IEEE Phoenix Section Women in Engineering Affinity Group



The IEEE Phoenix Section submitted the paperwork to the national office in May 2011 to establish a local **Women in Engineering (WIE) Affinity Group**. The national office formally approved our application at the end of June. Our Chair is Shamala Chickamenahalli (<u>shamala@ieee.org</u>), and the other members of our organizing committee are:

Lesley Polka (<u>lesley.a.polka@intel.com</u>) Diane Watkins (<u>diane.watkins@srpnet.com</u>) Joy Harris (<u>jharris@exponent.com</u>) Barbara McMinn (barbara.mcminn@aps.com)

The organizing committee held a Fall 2011 planning meeting in June. Our goal is to host at least one event per quarter throughout the year focused on the various technical, career and humanitarian aspects of the IEEE WIE mission.

On September 8th, we are participating in the ASU Engineering Career Exploration Night. The event will take place at Arizona State University, 5:30 pm – 8:00 pm. The evening is an outreach event sponsored by ASU's Ira A. Fulton School of Engineering to provide a casual networking environment for the 1,400 incoming ASU freshmen engineering students to meet professionals in various engineering disciplines. The event is designed to help students learn more about various engineering disciplines from professionals who can share their career insights, information and experiences with the students. If you would like to join the IEEE Phoenix Section WIE AG table at this event, please contact any of the organizing committee members for more information or just join us at the venue (ASU Tempe Campus, Memorial Union Bldg., 2nd floor) on Sept 8th.

We are planning several other activities for the immediate future, including participating in the IEEE Teacher-in-Service Program's Arizona Science Lab at the Arizona Science Center, a speaker event, and a December event at a local women's shelter. As more details become available, we will publish them through the Megaphone and to our distribution list. If you would would like to be added to our distribution list, please contact Lesley Polka (lesley.a.polka@intel.com).

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

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.

IEEE Phoenix Valley Megaphone September 2011



Phoenix Chapter of the IEEE Computer Society

September, 2011

<u>News</u>

- Chapter officers are now planning for the 2012 meeting calendar. Comments from chapter members as to possible topics, presenters, etc., for 2012 are welcome. See below for email addresses.
- We thank all members who participated in our survey regarding topics for future meeting presentations. We will use this information as we formulate our 2012 meeting calendar.
- Chapter elections for officers for 2012 will be held at the November 2nd meeting. Any member who is interested in participating in the governance and planning for the Phoenix IEEE CS Chapter is encouraged to contact one of the officers listed below.

Future Events

<u>2011</u>

 September 7 – Chapter meeting, DeVry University; speaker Mike Andrews, "Sentri II Surveillance Platform"

The Sentri II System is a self-contained intelligent camera system that is designed to see, hear, smell and feel. The core system contains a surveillance security camera and an acoustic recognition module that, in most municipal and military applications, "listens" for gunshots. When a weapon is fired, the Sentri II confirms that the sound was a gunshot, calculates the position of the perpetrator, points the camera at the spot of the weapon fire, the camera zooms in on the perpetrator, transmits the live video, the GPS location of the shooter and gunshot data to a Command & Control Center. Staff in the Command & Control Center can direct response units to the incident, providing real-time intelligence and increasing the margin of safety for the responding personnel.

In addition to serving as an intelligent camera system with acoustic recognition, the Sentri II System has the ability to interface with multiple smart sensors such as seismic pressure systems. In that case, if an intrusion is recognized via a pressure sensor, such as a fiber optic cable sensor or in-ground seismic sensor, the camera will automatically move to the intrusion area, alerting security personnel and providing a view of the area in less than a second.

 November 2 – Chapter meeting, DeVry University; speaker Kristy Westphal, "Mobile Device Forensics"; also, chapter elections for 2012

- January 11 Chapter meeting, DeVry University; speaker TBD
- March 7 Chapter meeting, DeVry University; speaker TBD

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

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

If you would like to suggest a topic or speaker for any of our future meetings, please contact one of the chapter officers:

Jerry Crow (jerry.crow@computer.org) Brad Morantz (bradscientist@ieee.org) Audrey Skidmore (askidmore@computer.org) Diane Smith (sdianesmith@computer.org)



WAVES AND DEVICES PHOENIX CHAPTER http://ewh.ieee.org/r6/phoenix/wad/ 2011 Calendar

INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS



Nov (TBD)		Agilent/Freesca le	Multiport Vector Network Analyzer: From the beginning to modern signal integrity applications	Prof. Andrea Ferrero	Politecnico di Torino
Oct(TED)	TBD	TED	Wide Band Gap Materials & Applications	Dr. Chuck Weitzel	Consultant
Oct(TED)	TBD	ASU	Analysis, Design and Measurements of Rexible Bow-Ties and High-Impedance Surfaces	Dr. Constantine Balanis	ASU
18-Aug	6:00 PM	Freescale	Advanced Silicon Technology and MEMS Reliability	Dr. Jeremy Muldavin	MIT Lincoln Labs
17 -Au g	Noon	ASU	CMOS Switched-Capacitor Circuits: Recent Advances in Bio-Medical and RF Applications	Dr. David J. Allstot	Univ. of Wash
29-Jun	6:00 PM	ASU	Radio Communications Systems on Next Generation Manned Space Vehicle	Mr. William Boger	General Dynamics
2-May	6:00 PM	ASU	Modeling and Simulation of Submillimeter Wave Semiconductor Devices	Dr. Stephen Goodnick	ASU
18 -Apr	1:30 PM	ASU	Analog-to-Digital Converters for Software- Definable Radios	Dr. Doug Garrity	Freescale
24-Mar	5:30 PM	ASU GWC487	Semiconductor Device Characterization and Failure Analysis	Dr. Dieter Schroder	ASU
28-Feb	1:00 PM	ASU GWC487	Joint Meeting With SSCS: Technology Challenges of Integrated	Dr. Shamala A Chickamenahalli	Intel
18-Feb	4:00 PM	ASU GWC487	Miniaturized Directional Microphones and Microspeakers for Hearing Aids Applications	Dr. Junseok Chae	ASU
17-Jan	5:00 PM	Freescale	1) Bectromagnetic Band Gap (EBG) Structures in Anterna Engineering: From	1) Dr. Yahya Rahmat-Samii	1) UCLA
Date 💌	<u>Time</u> -	Location -	Topic/Title/Status	<u>Speaker</u> 🔽	Affiliation









CALL FOR PAPERS

2011 BIPOLAR/BICMOS CIRCUITS AND TECHNOLOGY MEETING

Atlanta, Georgia, USA

http://2011.ieee-bctm.org

Short Course: Sunday, October 9, 2011, Conference: Monday and Tuesday, October 10-11, 2011

The Bipolar/BiCMOS Circuits and Technology Meeting (BCTM) is a forum for technical communication focused on the needs and interests of the bipolar and BiCMOS community. Papers covering the design, performance, fabrication, testing and application of bipolar and BiCMOS integrated circuits, bipolar phenomena, and discrete bipolar devices are solicited. All papers must be suitable for a <u>twenty-minute</u> presentation. Text and figures must not have been presented at other conferences or published in any scientific or technical publications prior to BCTM.

Publication in the BCTM 2011 Proceedings does not preclude publication in an IEEE journal, and authors are encouraged to do so. A Special Issue of the *IEEE Journal of Solid-State Circuits* will include selected papers from BCTM 2011.

Papers are solicited in the following areas

ANALOG / DIGITAL CIRCUIT DESIGN: Analog ICs - Digital ICs - Mixed analog/digital ICs - Novel design concepts and methods - DACs and ADCs - Amplifiers - Integrated filters - Communications ICs - Sensors - Gate arrays - Cell libraries -Voltage references - Analog subsystems within a VLSI chip - Packaging of high-performance ICs. High-voltage ICs -Automotive electronics, disc drives, display drivers, power supplies, electric utility, medical electronics, motor controls, regulators, amplifiers, converters, aerospace electronics.

RADIO FREQUENCY CIRCUIT DESIGN: Low Noise Amplifiers - Automatic gain control - VCOs - Mixers - Active gyrators - Power amplifiers - RF DMOS-based circuits - Switches - Noise suppression techniques - Frequency synthesizers - Radio subsystems - Packaging of RF components - Designing with integrated passive components at RF frequencies - Millimeter-wave circuits and systems.

WIRELINE COMMUNICATIONS: LAN, WAN, FDDI, Ethernet, Metro, Fiber channel, SONET, ATM, ISDN, xDSL, optical data links - Power-line/phone-line networks - Cable modems, broadband circuits - MUX/DEMUX - Clock and data recovery - Error coding and correction - Crosspoint switches - Laser and modulator drivers - Preamplifiers - AGC amplifiers - Decision circuits - Equalizers - Optical networking ICs.

DEVICE PHYSICS: New device physics phenomena in Si, SiGe, and III-V devices - Device design issues and scaling limits -Hot electron effects and reliability physics - Transport and high field phenomena - Noise - Linearity/Distortion - Novel measurement techniques - Operation in extreme environments (low and high temperatures, radiation effects).

MODELING / SIMULATION: Improved BJT and HBT models - Behavioural modeling techniques - Parameter extraction methods and test structures - De-embedding techniques - RF and thermal simulation techniques - Modeling of passives, interconnect and packages - Statistical modeling - Device, process and circuit simulation. CAD/modeling of power devices, packaging of power devices, and ESD phenomena.

PROCESS TECHNOLOGY: Advances in processes and device structures demonstrating high speed, low power, low noise, high current, high voltage, etc. BiCMOS processes - Advanced process techniques - Si and Si-C homojunction bipolar/BiCMOS devices, III-V and SiGe heterojunction bipolar/BiCMOS devices. Manufacturing solutions related to Bipolar and BiCMOS yield improvements. Fabrication of high-performance passive components, including, MEMs. Process technology related to discrete and integrated bipolar/BiCMOS power devices, IGBT, RF power devices including DMOS. Wide bandgap bipolar devices (i.e. SiC, GaN, GaAs etc.) and related process technology.

STUDENT paper submissions are highly encouraged. Papers must be clearly marked as 'STUDENT SUBMISSION' in the abstract cover sheet to be eligible for the Best Student Paper Award.

If you know of people who may have a paper to contribute please bring this Call for Papers to their attention.

IMPORTANT DEADLINES FOR AUTHORS

Monday, May 2, 2011 Deadline for receipt of abstract and summary Friday, June 10, 2011 Notification of acceptance to be sent by email Friday, July 8, 2011 Final proceedings manuscript due

SUBMISSION AND CONTACT INFORMATION

Visit the conference website: http://2011.ieee-bctm.org, or contact: Jan Jopke, Conference Manager, CCS Associates, 6611 Countryside Drive, Eden Prairie, MN 55346, USA TEL: 1-952-934-5082, FAX: 1-952-934-6741 E-mail: ccsevents@comcast.net.

Global Patent Solutions, LLC (GPS)

Patent Researcher/Searcher – Electrical/Computer/Communications

Global Patent Solutions, LLC (GPS) is an intellectual property research and consulting firm founded to meet the demanding needs of Inventors and IP professionals around the world for high-quality patent research and consulting. From our headquarters in Scottsdale, AZ, we currently service a global client-base of IP Attorneys, Patent Agents, Business Leaders, R&D Teams, Universities, Entrepreneurs and Inventors.

This is not your ordinary, run-of-the-mill research position. Each project is unique and possesses a new challenge for you to tackle. You must be able to assess and analyze the best way to approach a project. Previous patent knowledge is great; however, it is not required. We are willing and able to train.

However, candidates applying for this position <u>MUST</u> have previous experience or extensive knowledge in one or more of the following technical areas:

- Wireless Networking (Cellular, CDMA, 4G, 3GPP, LTE)
- Computer Networking (Ethernet, Packet Formation, Routing Algorithms, etc)
- Computer Vision / Image processing (Feature-based, Learning Algorithms, Classifiers, etc.)
- GPS/Satellite Positioning
- Display/Pixel Technology
- Encryption / Cryptography (digests, public/private keys, etc.)
- MEMS or NANO technology

We are hiring people who desire to continuously learn and put that knowledge to use to get quick results to meet our clients' deadlines.

The Patent Researcher primarily will perform research of invention concepts related to the technologies listed above using a variety of databases and compile formal search reports to demonstrate findings to clients. A majority of work requires in-depth reading, writing and working on computers.

The position entails:

- Quickly reviewing and gaining an understanding of technical aspects of client inventions and/or technical search concepts
- Creating research strategies that best utilize time and resources when executed
- Performing extensive database research
- Reviewing, gathering and analyzing technical literature
- Reporting research findings in a timely and high-quality manner

Requirements: BS, MS or PHD in Engineering or equivalent experience required.

We are a growing company located in Scottsdale, Arizona. We are primarily interested in hiring full-time positions in our Scottsdale facility. It is possible, though not preferred, that unique circumstances would lead us to also consider an employee working remotely; this position, however, must be filled within the U.S. Part-Time employment is also a possibility for the right individual.

We provide the following benefits:

- Competitive Salary Compensation commensurate with capabilities and experience
- 10 Days of Vacation Leave

- 5 Days of Sick Leave
- 10 Paid Holidays
- Full Dental & Medical Insurance Coverage
- Retirement Plan

If you can manage yourself, as micro-managing is not our style, and you are motivated to get results in a timely manner, this could be a great opportunity for you to learn and grow with a quality-driven company.

This position requires you to:

- Meet and exceed client needs and deadlines by providing viable research solutions and being reliable and dedicated to getting the job done.
- Quickly, continuously and concisely Learn, Interpret, Comprehend, Retain and Apply technical abilities. Enjoy an ongoing learning and computer-based environment that is dedicated to quality.
- Thrive in ambiguity and to self-manage, prioritize and take pride in the work with the team and individually.
- Proactively, confidently and effectively communicate with internal team members and external clients. Don't be afraid to ask for help. Be supportive and helpful to others on all levels.
- Actively participate as a team member to best serve clients and the team.

You will mostly work on your own, but we do have a wonderful, supporting staff that requires some teamwork on occasion. We are looking for an efficient and flexible team player who likes to have fun too!

To apply please, please email your cover letter and resume to: <u>robb.evans@globalpatentsolutions.com</u> You can also learn more about us by visiting our Website: <u>www.globalpatentsolutions.com</u>

Premier Semiconductor Services LLC www.premiers2.com (Tempe)

Position Open: Quality Manager & Process Engineering Manager

Quality Manager & Process Engineering Manager

Position:

Premier Semiconductor Services, an established Testing and Semiconductor Backend Service Provider, has an immediate opening for a Quality Manager & Process Engineering Manager who has at least 5 years experience in this industry. This person will oversee all process improvement opportunities and quality compliance with our Quality System which is ISO 9001 Certified.

Company:

Premier Semiconductor Services is a privately held, well diversified, rapidly growing and financially sound company, with their corporate headquarters in Tempe, AZ, plus three additional domestic manufacturing locations. We combine industry expertise with the highest quality standards in the semiconductor industry as we support the commercial, automotive, military, aerospace, medical, and industrial market segments. Premier offers the most comprehensive array of backend service offerings in the US including: Counterfeit detection testing – investigative visual inspection, blacktop/remark detection test, X-ray, XRF, decapsulation, electrical and upscreen testing. Other core services include: Tin whisker mitigation– automated processes for BGA reballing & LGA ball attach, Pb free conversion, programming, marking, scan, tape & reel, lead straightening, bake & dry pack, solderability testing and more. Premier is ISO 9001 Certified and DLA lab suitable, DSCC certified & operates from multiple locations. The Company has a competitive compensation and benefit package which includes Medical Insurance, Holiday, Vacation, 401(k) and other benefits. The Company is an equal opportunity employer, dedicated to promoting a culturally diverse workforce. Relocation assistance is available for this position.

Job Description Summary:

As Quality & Process Manager, the responsibilities include process improvement opportunities and quality compliance. This position is responsible for maintaining customer and industry quality standards such as "ISO 9001" and "MIL-STD-883" and leading further compliance with a wide variety of JEDEC standards as well as specific customer quality requirements.

Job Responsibility:

- Maintain or obtain industry quality standards such as "ISO 9001" and "MIL-STD-883" as required by company for continuous improvement and customer satisfaction. Lead all activities in support of these quality standards as well as required JEDEC and customer quality requirements.
- Lead management quality review teams as required.
- Provide oversight for the quality and inspection group; oversee and prepare as necessary documentation for the quality systems, employee training and monitoring of production process and department shipments. Determine level of sampling for in-process and final inspections, as well as the equipment and personnel needs.
- Understand and implement any specific customer quality requirements; Includes communicating with customers as necessary.
- Take lead regarding any customer return request and RMA process. Assume the appropriate responsibilities and duties involving deviation requests, problem resolution and customer related communications.
- Continuous improvement of quality management systems; includes problem solving to increase overall quality to customer as well as to improve inspection efficiency, implementing new quality systems.
- Maintain company QA manual; Ensure employees are trained in accordance to the requirements in the QA manual, perform procedural audits of personnel as required, update manual as required.
- Oversee as necessary incoming inspection monitoring.
- Collect and distribute quality related data, yield rates and reasons/percentages for discrepant material.
- Provide final opinion as to the disposition of parts with questionable or borderline attributes.
- Take an active role in the training of employees.
- Help with DLA Certification expansion and AS 9100 Certification.

Job Requirements:

- Bachelor's degree or long term industry specific experience.
- 5+ Years of Quality management experience.
- Strong computer skills; Microsoft Office, Word, Excel.
- Military specification experience preferred (MIL-STD-883).
- Semiconductor component experience preferred.
- Ability to establish priorities and maintain multiple priorities and tasks at one time.
- Well-developed organizational and inter personal skills. A self-starting and self-motivating individual with a positive attitude and influence on the organization.
- Excellent oral and written communication skills are required.

If interested please Apply Premier Semiconductor Services LLC 480-736-1970

www.premiers2.com



(http://ieeeusa.org/policy/govfel/default.asp\)

Each year, IEEE-USA sponsors three government fellowships for qualified IEEE members. The fellows - chosen by the IEEE-USA Government Fellows Committee and confirmed by the Board - spend a year in Washington serving as advisers to the U.S. Congress and to key U.S. Department of State decision-makers. Known as either a Congressional Fellowship or an Engineering & Diplomacy Fellowship, this program links science, technology and engineering professionals with government, and provides a mechanism for IEEE's U.S. members to learn firsthand about the public policy process while imparting their knowledge and experience to policymakers.

2012 Application materials are now available online. The deadline is March 18, 2011

Application Kit for 2012 Congressional Fellowship

http://ieeeusa.org/policy/govfel/documents/cfappkit12_000.doc

Application Kit for 2012 Engineering & Diplomacy (State Department) Fellowship

http://ieeeusa.org/policy/govfel/documents/Stateappkit12_000.doc



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

- April 2011
 - Student-Industry Mixer
 - MicroMouse registrations due to Southwest Area: TBD
 - Student papers due to Southwest Area: TBD
 - \circ Southwest Area Spring meeting incl. Student Paper and MicroMouse contests: TBD
 - \circ $\,$ Nominating Committee formed for election of next year's Section officers
 - At least three members that are not Section officers (Chapter officers okay)
- May 2011
 - Student Branch reports to IEEE HQ and Student Activities Chair due: May 1, 2011
 - Call for Nominations issued by Nominating Committee
- June 2011
 - Review meeting schedules of Chapters
 - Nominations received by Nominating Committee
- July-August 2011
 - Summer break
- IEEE Congress August 19 -22, San Francisco
- September 2011
 - \circ Student Branches send annual plan of activities to IEEE
 - o Annual Banquet: Determine date, confirm hotel, speaker
 - Announcement of Student Paper Contest
 - Announcement of Student Scholarships
 - Call for nominations for awards
 - Categories: Young Engineer/GOLD, Engineer, Company, Educator
- October 2011
 - Announcement of Student Paper Contest
 - Announcement of Student Scholarships
 - Call for nominations for awards: see September
 - Southwest Area Fall meeting: TBD
- November 2011
 - Election of new officers
 - 2011 budget proposal
 - Start ad for Student Paper Contest and Scholarships
 - For dates see under February
 - Student Industry Mixer: TBD
- December 2011
 - Report of Section activities for 2011

- Appoint chairs of Section committees
- Student Scholarship applications due: TBD
- Annual Banquet: Finalize speaker
- Annual Banquet: E-mail program

IEEE Phoenix Section Executive Committee Meeting

- Venue: Phoenix Airport Hilton 2435 S 47th St, Phoenix, AZ, 85034 (map) Tel.: 480-804-6017
- **More Info:** Meetings are held on the first Tuesday of the month, 6–8 PM. - Except for July & August

All interested IEEE members are welcome to attend.

Contact: Jim Hudson, Phoenix Section Chair jim.hudson@srpnet.com

IEEE Phoenix Section Nomination of Officers



The IEEE Phoenix Section is seeking nominations for the following elected Section officer positions for the 2012 term:

- Chair
- Vice Chair
- Secretary
- Treasurer

Additionally, the Nominating Committee is seeking candidates for the following non-elected appointed standing committee chair positions for the 2012 term:

- Publicity
- Membership
- Student Activities
- Conferences
- Awards
- Inter-Society
- PACE (Professional Activities Committees for Engineers)
- TISP (Teacher In-Service Program)
- Web Master

Section officers must be IEEE members. Self-nominations are acceptable.

Please send nominations or any questions to Steve Rockwell (e-mail <u>steve.rockwell@ieee.org</u>), copying also Nominating Committee members Mike Andrews (e-mail: <u>m.andrews@ieee.org</u>) and Mohamed Arafa (e-mail: <u>mohamed.arafa@intel.com</u>).

Section members are urged to submit your nominations by no later than September 1.

Sincerely, Steve Rockwell Chair, Nominating Committee, Phoenix Section

Section Officer Job Descriptions

Section Chair

The Section Chair shall serve as Chair for all meetings of the Section, the Section Committee and the Section ExCom where such ExCom exists.

Roles:

- Preside at meetings of the Section Executive Committee
- Represent the Section at IEEE gatherings
- Represent the Section at Regional Committee Meetings and vote on issues on the basis of the best interest of IEEE

Vice Chair

The Section Vice Chair shall assist the Chair in the coordination of all Section activities. At the request of the Section Chair or in the absence of the Section Chair, the Section Vice Chair shall chair meetings of the Section, Section Committee or Section ExCom.

Secretary

The duties of the Section Secretary shall include correspondence, the keeping of the minutes of the Committee meetings, mailing notices, and submission of meeting and officer reports to the Member and Geographic Activities Department at the end of each year and such other duties as are assigned to him/her by the Chair.

<u>Treasurer</u>

The duties of the Section Treasurer shall include the development of a Section budget for approval by the Section, accounting of all Section funds, keeping financial records, and submitting the Financial Operations Report of the Section to the IEEE Staff Director, Financial Services.

Publicity

- Publish and distribute monthly section newsletter
- Maintain section email lists
- Support chapter publicity submissions to the the IEEE E-Notice system

Membership Chair

- Monitoring a current record of membership.
- Analyzing membership trends.
- Ensure adequate supplies of membership development materials available for distribution (chapter meetings, conferences, job fairs, etc.).
- Coordinating membership exhibits for local meetings and conferences, soliciting materials for exhibits, indentifying volunteers to staff booth.

Student Activities Chair

- Coordinate and support student chapters by working with the student chapter representatives and their faculty advisers.
- Organize the annual student paper competition
- Organize the annual student scholarship awards program

Conferences Chair

- Support and act as liaison between the section and locally held IEEE affiliated conferences
- Maintain calendar of IEEE related conference events on the section website calendar

Awards Chair

• Plan, coordinate, and organize the annual awards banquet

Inter-Society Chair

- Coordinate and act as liaison between section and other engineering or relevant organizational entities <u>PACE (Professional Activities Committees for Engineers) Chair</u>
 - Coordinate and support professional and career developmental activities

TISP (Teacher In-Service Program) Chair

• Coordinate the local TISP program

Web Master Chair

• Maintain and update the Section website as needed

THE NEW TOOL FOR A SUCCESSFUL JOB SEARCH

MATCHING YOU TO YOUR DREAM JOB:

Creating a better resume, targeting the right employers and having more effective interviews are all elements of finding that ideal next job. With that framework, the Phoenix Section has created a partnership with Top Talent Consulting and Target Training International designed to increase your chances of getting hired for the job you're really looking for...a job that not only uses your technical talents but matches your personal skills.

It begins with the creation of your behavioral profile. Free to IEEE members, the results will enable you to improve your resume and help companies find you. The profile measures 55 soft skill requirements in jobs and in people. When the jobs and people match, the synergy begins. Top Talent Consulting will shop your skills against the requirements of their clients...companies hiring engineers and technical professionals. Target Training International is the only company that uses this time-tested, scientific knowledge to match people to jobs. Their system is designed to identify your talents and match them to your ideal job, which ensures a culture that matches your needs and provides natural on-the-job motivation.

As an IEEE member, there's no cost you! Normally the behavioral profile costs \$90.00 but this is a benefit for Section members. Your detailed personal profile includes General Characteristics, Value to the Organization, Do's and Don'ts on Communicating, Ideal Environment, Perceptions, Descriptors, Keys to Motivating, and Action Plan and much more.

What else is in it for you? The immediate benefits to you include:

- 1. An increased understanding of your strengths
- 2. The ability for you to articulate your strengths in your resume and interview
- 3. Improving your resume
- 4. Utilizing key action words and phrases in your resume that will increase it's power
- 5. Conduct a stronger interview
- 6. Have access to resources to assist you in your job search

When you're finished, Top Talent Consulting will place your resume and skills will be placed in front of many prospective employers and recruiters based on your best job fit!

For more information and to receive your profile code, contact Mike Andrews, <u>m.andrews@ieee.org</u>.

IEEE-Phoenix Section



Workshop

A PROFESSIONAL CHALLENGE: Your Job Search Saturday, October 1, 2011 10:00 – 1:30 PM Phoenix Burton Barr Library Auditorium

1221 N Central Ave

Phoenix, AZ

The challenges related to finding the right job in the Valley's market has changed greatly. Companies are not only looking at technical abilities but also trying to assure the correct fit of your skills and their skill requirements. Creating a better resume, targeting the right employers and having more effective interviews are all elements of finding that ideal next job. It is essential that the displaced technical professional or the individual searching for a new opportunity effectively identify/qualify job leads and hiring organizations, develop an effective resume/job application package, and have a successful interview.

The Job Search workshop will go through each phase of your job search including: preparation, search, contact, interview, selection, and growth.

Major workshop topics include:

- Resume development
- Integrating your competency skill profile and technical profile
- Exploring using your personal and professional network
- Market analysis
- Search (industry and market)
- Interviewing (competency based and technical)
- Follow-up

In this workshop, you will:

- Identify and analyze your attributes, interests, skills and accomplishments and the impact you can make on an organization
- Develop a competency based resume and companion introduction letter
- Determine methods for making effective contacts and distributing your materials
- Identify of the different resources and personal networks that can be used in your job search
- Discuss elements of effective interviewing, including competency-based interviews, technical interviews and interview scoring
- Identify personal improvement opportunities and options
- Develop a marketing and tracking plan for all applications, interviews and feedback.

Registration

The registration fee for the program is \$10.00, payable to the IEEE-Phoenix Section. Registration and course related questions should be made directly to Michael Andrews, <u>m.andrews@ieee.org</u>. Registration is limited.

Participants must bring an existing resume and current work history (soft copy and hard copy). You may bring a personal computer (optional).



Monday, September 19, 8:00AM-10:00AM

DETAILED PROGRAM

Monday, September 19, 8:00AM-10:00AM

Plenary Session Monday, September 19, 8:00AM-10:00AM, Room: Regency Ballroom ABCD.

Monday, September 19, 10:20AM-12:00PM

Special Session: Wind Energy Monday, September 19, 10:20AM-12:00PM, Room: Regency Ballroom ABCD, Chair:

10:20AM Power Electronics Converters for Wind Turbine Systems [#903] Frede Blaabjerg, Marco Liserre and Ke Ma, Aalborg University, Denmark; Polytechnic of Bari, Italy

Transportation Applications: General Monday, September 19, 10:20AM-12:00PM, Room: Regency Ballroom CD, Chair:

10:20AM Development of a Drive Cycle Based Evaluation Method for Variable Voltage Converter in Vehicle Electrification Applications [#988] Lihua Chen, Liwen Xu, Nagaraj Narayanachar and Shahram Zarei, Ford Motor Company, United States

10:45AM Small-Size Light-Weight Transformer with New Core Structure for Contactless Electric Vehicle Power Transfer System [#189] Chigira Masato, Nagatsuka Yuichi, Kaneko Yasuyoshi, Abe Shigeru and Yasuda Tomio, Saitama University, Japan; Technova Inc., Japan 11:10AM Fault-Tolerant Control of Induction Motor Drive for Automotive Belt-Alternator-Starter Application [#130] Chandra Namuduri, Suresh Gopalakrishnan, Keith Van Maanen, Bryan Ludwig and Bonho Bae, Technical Fellow, General Motors, United States; Staff Researcher, General Motors, United States; Hybrid Systems Engineer, General Motors, United States; Hybrid Power Elect. Engineer, General Motors, United States; Staff Engineer, General Motors, United States

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11:35AM Energy Efficiency in Plug-in Hybrid Electric Vehicle Chargers: Evaluation and Comparison of Front End AC-DC Topologies [#354] Fariborz Musavi, Murray Edington, Wilson Eberle and William G. Dunford, Delta-Q Technologies Corp., Canada; University of British Columbia, Canada

Power Semiconductors: Thermal Management Monday, September 19, 10:20AM-12:00PM, Room: Curtis AB, Chair:

10:20AM Study and realization of a high power density electronics device cooling loop using a liquid metal coolant [#126]

Mansour Tawk, Yvan Avenas, Afef Kedous-Lebouc and Mickael Petit, Phd Student, France; Dr., France

10:45AM Drift region integrated microchannel structure for direct cooling of power electronics [#225] Kremena Vladimirova, Jean-Christophe Crebier, Yvan Avenas and Christian Schaeffer, G2Elab, France 11:10AM Thermal management of compact SMT multilayer power converters [#790] Ivan Josifovic, Jelena Popovic-Gerber and Jan Abraham Ferreira, Delft University of Technology, Netherlands

"IEEE Phoenix Section Survey

IEEE Phoenix Section Executive Committee is requesting all IEEE Phoenix Section Members to provide their valuable inputs to help with continuous improvement of section activities. The survey can be accessed at www.ewh.ieee.org/r6/phoenix. Please download the survey and send by email to IEEE Phoenix Section Secretary, Dr. Chuck Weitzel, at c.weitzel@ieee.org/r6/phoenix. Please download the survey and send by email to IEEE Phoenix Section Secretary, Dr. Chuck Weitzel, at c.weitzel@ieee.org/r6/phoenix. Please download the survey and send by email to IEEE Phoenix Section Secretary, Dr. Chuck Weitzel, at c.weitzel@ieee.org. Your support in this matter will be greatly appreciated."

"IEEE Member Grade Advancement

All IEEE members are advised to look into advancing their IEEE membership to higher grades – senior member and Fellow. Please refer to www.ieee.org for additional information, requirements, and process for obtaining senior member and fellow grades. Please contact Dr. Vasudeva P. Atluri, Membership Chair, IEEE Phoenix Section at <u>vpatluri@ieee.org</u> for guidance and support."

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 Treasurer, Russ Kinner at 602-997-2353 or e-mail: <u>r.kinner@ieee.org</u>

Phoenix Section LinkedIn Group

If you are interested in professional networking and shared Section related updates & discussions join the <u>IEEE Phoenix Section Group on LinkedIn</u>. Signing up only takes minutes and is free. A job board is available as well.