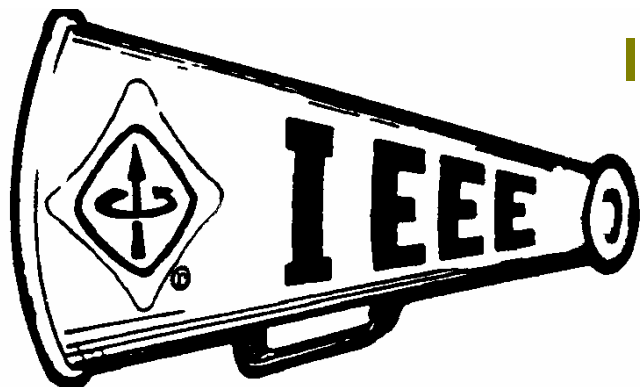


# The Valley Megaphone



Newsletter of the  
**IEEE – Institute of Electrical and  
Electronics Engineers, Inc.**  
**Phoenix Section**  
May 2004, Volume XVIII, Number 5

## Executive Committee

### Past Chair

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Jdrye@ieeee.org

### Chairman

George Karady, 480-965-6569  
Karady@asu.edu

### Vice-chair

Shamala Chickamenahalli, 480-554-6774  
shamala@ieeee.org

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Rao Thallam, 602-236-5481  
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Rao Bonda, 480-413-6121  
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dongming@ieeee.org

### PACE

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

### Membership

Mark Garula, 602-436-4031  
mgarula@ieeee.org

### Student Activities

Keith E. Holbert, 480-965-8594  
holbert@asu.edu

### Conferences

Henning Braunisch, 480-552-0844  
braunisch@ieeee.org

## *This Issue of Valley Megaphone Features: Contacts and Links*

*Executive Committee (page1)*

*Chapters and Branches (pages 1 and 2)*

*Student Branches (page 2)*

*The contacts are being updated this month: new  
conference chair and student chapter chairs and  
advisors.*

## *Contents:*

- 1. IEEE Senior Member and Fellow Grades: page 2**
- 2. Phoenix Section Student Paper Contest Winner  
Announced: page 2**
- 3. Analog / Mixed Signal Design Engineer Opening:  
page 3**
- 4. Power Engineering Society Announcement: page  
3**
- 5. CASPA Annual Job Fair: Page 4**
- 6. Computer Society Announcement: page 4 – page  
5**
- 7. CPMT Society Announcement: page 6 – page 7**
- 8. WAD Society Announcement: page 7 – page 8**

**IEEE Phoenix Section Executive Committee meeting  
minutes can be found at: <http://www.ieeee.org/phoenix>.**

## Executive Committee contd..

### Awards

Vasu Atluri, 480-554-0360  
vpatluri@ieeee.org

### Inter-Society

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

### Web Master

Chandan K. Das, 480-554-1300  
cdas@ieeee.org

## Chapters & Branches

### Comm & Signal Processing

Cihan Tepedelenlioglu, 480-965-6623  
cihan@asu.edu

### Computer Society

Bob Bianca, 623-582-1700  
[Bob.Bianca@Computer.org](mailto:Bob.Bianca@Computer.org)

### Consultants Network (PACN)

Paul Everett, 480-706-4753  
peverett@ieeee.org

### CPMT Society

Eric Palmer, 480-554-8710  
Eric.c.palmer@intel.com

### EMC Society

Harry Gaul, 480-441-5321  
Harry.gaul@ieeee.org

### Power Engineering Society

Raja Ayyanar, 480-7277307  
rayyanar@asu.edu

The Valley Megaphone is the newsletter of the Phoenix Section of the Institute of Electrical and Electronics Engineers. It is published monthly, September through June. The publication reaches about 4000 members. Submit articles, advertisements, and announcements to Dongming He at the above email address. Deadline for announcements and advertisements is the third Friday of the month prior to publication.

Advertising Rates: Full page: \$200, 3/4page: \$125, 1/2 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://www.ieeee.org/phoenix>



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# IEEE ANNOUNCEMENTS

[Contd.. from page 1](#)

#### Waves & Devices Society

Chuck Weitzel, 480-413-5906  
Chuck.weitzel@motorola.com

#### GOLD

Vasu Atluri, 480-554-0360  
vpatluri@ieee.org

### Student Branches

#### ASU Main, Engineering

Chair: Rouzbeh Brumand  
[Rouzbeh.Brumand@asu.edu](mailto:Rouzbeh.Brumand@asu.edu)  
Advisor: Cihan Tepedelenlioglu, (480) 965-6623  
[Cihan@asu.edu](mailto:Cihan@asu.edu)

#### ASU Main, Computer Society

Chair: Bob McCornaghy  
[afterdrk@asu.edu](mailto:afterdrk@asu.edu)  
Advisor: Joseph Urban, 480-965-3374,  
[joseph.urban@asu.edu](mailto:joseph.urban@asu.edu)

#### ASU East, Technology

Chair: Curtis Ritter  
[emceeiit@aol.com](mailto:emceeiit@aol.com)  
Advisor: Dr. Raji Sundararajan, 480-727-1507  
[Raji@asu.edu](mailto:Raji@asu.edu)

#### DeVry, Phoenix

Chair: Val Shulfer  
[VShulfer@cox.net](mailto:VShulfer@cox.net)  
Advisor: Dion Benes  
Phone: (602) 870-9222

#### DeVry, Computer Society

Chair: Mike Lewis  
[Mike\\_Lewis@ieee.org](mailto:Mike_Lewis@ieee.org)  
Advisors: Terri Barnes, 602-870-9222  
[tbarnes@devry-phx.edu](mailto:tbarnes@devry-phx.edu), Diane Smith  
602-870-9222, [dianesmith@devry-phx.edu](mailto:dianesmith@devry-phx.edu)

#### NAU, Engineering

Chair: Cari Fischer  
[cdf5@dana.ucc.nau.edu](mailto:cdf5@dana.ucc.nau.edu)  
Advisor: Peter Blakey, 928-523-3493  
[Peter.Blakey@nau.edu](mailto:Peter.Blakey@nau.edu)

#### NAU, Computer Society

Chair: Jamie Warnke  
[jmw46@dana.ucc.nau.edu](mailto:jmw46@dana.ucc.nau.edu)  
Advisor: Phil Mlsna, 928-523-2112  
[Phillip.Mlsna@nau.edu](mailto:Phillip.Mlsna@nau.edu)

#### Embry-Riddle, Prescott

Advisor: Chuck Cone  
[conec@erau.edu](mailto:conec@erau.edu)

#### Embry-Riddle Computer Society

Advisor: Susan Gerhart, (928) 777-3882  
[gerharts@erau.edu](mailto:gerharts@erau.edu)

### IEEE Senior Member and Fellow Grades

All IEEE Phoenix Section Members interested in getting nominated to Senior Member or Fellow Grade, please contact Vasu Atluri by telephone at (480) 554-0360 or by email at [vpatluri@ieee.org](mailto:vpatluri@ieee.org). Please refer to [www.ieee.org](http://www.ieee.org) for more information related to senior member and fellow grades.

The IEEE Phoenix Section would like to congratulate following nine members who have been elevated to IEEE Senior Member. This is a high honor the IEEE bestows on engineers who have excelled in their field and are recognized by their peers. **Hanna E. Abdallah** (Society Power Engineering Society), **Beth Keser** (Components, Packaging, & Manufacturing Technology), **Tien-Yu (Tom) Lee** (Components, Packaging, & Manufacturing Technology), **Harry Molling** (Computer Society), **Mohammed T. Quddus** (Electron Devices Society), **Kannan Raj** (Components, Packaging, & Manufacturing Technology), **Lakshmi N. Ramanathan** (Components, Packaging, & Manufacturing Technology), **Joy Shetler** (Computer Society), **Dan Wheeler** (Computer Society).

### Phoenix Section Student Paper Contest

From Dr. Keith Holbert – Student Activity Coordinator

Congratulations to Curtis J. Ritter, III, who won this year's Phoenix Section Student Paper Contest. The title of Curtis' paper was "Remote Operated Rover for Toxic Waste Disposal." Curtis is an IEEE student member and the Student Branch Chair at the Arizona State University East campus.



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## Design Engineer Job Opening

**Title:** Analog/Mixed Signal Design Engineer  
**Location:** Tempe, AZ  
**Salary Range:** \$75,000 to \$100,000 depending on experience  
**Contact:** Krisanne McGuire, Southwest Recruiting Services  
**E-mail resumes to:** krisanne@southwestrecruiting.com

Growing division of large, international company seeks Design Engineer. Position will be responsible for Analog/Mixed Signal Design of integrated circuits. Job requires a good understanding of integrated circuit electronics including device level physics, analog and transistor level circuit design, layout and computer aided design tools. Area of expertise is in analog design including analog functions like VCO, current sources, references, comparators/op-amps. Design focus will be on Analog functions like AtoD converters, EEPROM, regulators, oscillators and Pulse Width Modulation. The job will entail performing the complete design from product definition and design to layout using state of the art design tools, analog and digital design, synthesis, automatic place and route tools. Verification of design will be using circuit simulation tools (SPICE like), VerilogXL/Leapfrog, and layout verification tools such as Dracula/Diva. An understanding of CAD tools and environments, i.e., design workstations, UNIX, and Cadence design systems is necessary. Successful candidate will have Mixed Signal Design and Layout skills including Analog design and simulation/verification, Digital design and verification. Experience with Synthesis and layout of digital block using Cadence design tools desired. Must be familiar with current design projects and development in the system management program.

### Requirements:

- Minimum 3 to 5 years experience in analog IC design
- Sub-micron CMOS/BiCMOS or SiGe experience
- Must possess strong intuitive and analytical understanding of transistor level design
- Must understand layout issues with respect to analog circuits
- Must demonstrate understanding of design flow in regards to mixed signal circuits

## Power Engineering Society Meeting Announcement

Reservations Required: Please email Steve Clark [steveclarkpower@earthlink.net] or call Betty at 480-661-8599 or Steve Clark at 480-661-8599.

**Date:** May 20, 2004

**Time:** Registration: 11:30, Lunch 12:00 Noon, Program 12:30 PM

**Place:** Wyndham Phoenix Airport, 427 N 44th Street, Phoenix

**Cost:** \$12.00 (Students \$6.00)

**Speaker:** Lois Winkler, Senior Design Project Leader, APS

**Topic:** Lois will be speaking on the impact that the Phoenix Metro Light Rail system is having on the utilities and what the utilities are doing to support the project.

For reservations please contact Steve Clark or Betty at the above contact numbers before Noon, Monday May17, 2004 or submit an online reservation at <http://ewh.ieee.org/soc/pes/phoenix/lunch.htm>

If there are any questions, feel free to call Doug Selin at 602-371-6388.



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## CHINESE AMERICAN SEMICONDUCTOR PROFESSIONAL ASSOCIATION

PHOENIX CHAPTER

<http://www.caspa.com>

### CASPA Annual Job Fair will be in town

Chinese American Semiconductor Professional Association (CASPA) is hosting its traditional annual CASPA Job Fair. The Job Fair is designed to attract high-tech companies in the areas of semiconductor, communication, networking, software, IC design, and etc to recruit exceptional technical talents. This year, the job fair will be held at San Jose, Austin, Phoenix and Portland. We have attracted Infineon Technologies (英飛凌科技有限公司), Shanghai Jiao Tong University School of Microelectronics (上海交通大學微電子學院), Grace Semiconductor (宏力半導體), ERSO/ITRI (台灣工業技術研究院/電子所), Intel, UMC (聯華電子) and Comlent Holding Inc. (鼎芯半導體) to recruit talents in the Phoenix area. We wish that this be a good opportunity to bridge the technology talents directly with industry leaders. For further information please refer to [www.caspa.com](http://www.caspa.com). Wish you could take the advantage of this job fair as a step stone for your career success. Please submit your resume to: [caspajob@ix.netcom.com](mailto:caspajob@ix.netcom.com) and [qh\\_xie@yahoo.com](mailto:qh_xie@yahoo.com) (and indicate the companies you are interested in).

**Location:**

Sheraton Phoenix Airport Hotel  
1600 South 52nd Street Tempe, Arizona 85281;  
Phone (480) 967-6600 Fax: (480) 829-9427

**Agenda:**

Company Presentation/Job Interview - 7:00PM – 11:00PM at May 12th of 2004  
Job Interview – 9:00AM – 5:00PM at May 13th of 2004



### Linux on IBM Mainframes

**SPEAKER: Sam Cohen DATE: 6:00 PM, Wednesday May 12, 2004**



**LOCATION: DeVry University, 2149 West Dunlap Ave, Phoenix, Az 85021** (1 mile east of I-17 on Dunlap, SE corner of 22<sup>nd</sup> Ave and Dunlap). Networking will be in the Courtyard (6-7PM with light meal), presentation at 7PM.

**Free, Everyone is welcome.** Please tell others about this meeting.

**Have you seen all of the IBM Linux commercials on TV lately? Well then, you know IBM is making a big commitment to Linux. Now is your opportunity to learn about how the Penguin is moving into Big Blue. Sam Cohen will talk about IBM's port of Linux to their zSeries mainframes. He will tell us about the IBM**



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**zSeries e-server - not your father's mainframe. Then Sam will discuss why Linux on the zSeries. He will continue with Workload considerations.**

**Sam Cohen has over 20 years with IBM as a Programmer/Analyst, Systems Engineer and I/T Specialist. He works with customers throughout the US to implement Linux on the zSeries platform, focusing on ease of server provisioning and servicing.**

See [www.ieee.org/phoenix/compsociety](http://www.ieee.org/phoenix/compsociety), for more information.

Contact Bob Bianca ([Bob.Bianca@Computer.Org](mailto:Bob.Bianca@Computer.Org))

## Linux Hands-on Introduction

**SPEAKERS:** Richard Bartholomew, Bob Bianca, Diane Smith

**DATE:** 8am – 5pm, Saturday June 19, 2004

**INCLUDES:** 2 CD LINUX Distribution, 1 CD KNOPPIX (Live UNIX),  
Continental Breakfast, Lunch, and Snacks during 2 break.

**Cost:** \$65 before June 10. \$85 at the door. Seating limited! Register early!

**Hands-On - Each Student will have access to one computer.**

**To register:** Mail your Name, Phone Number, & E-Mail with your \$65 check to: IEEE Computer Society, C/O Rick Stacio, 3344 W TARO LN, Phoenix Arizona 85027-6157

### Session 1: **Linux/UNIX Introduction**

- How to load LINUX KNOPPIX (Linux runs directly from the KNOPPIX CD on PC without changing your hard drive).
- Linux Desktop/Windows, Editor

### Session 2: **Linux/UNIX Shell Programming Introduction**

- Basic Linux/UNIX Commands

### Session 3: **Linux/UNIX TCL/TK Programming Introduction**

- Interactive language, easy graphical widgets, sockets, text manipulation.

### Session 4: **Linux/UNIX Perl Programming Introduction**

- Monitor system data, report generation.

**LOCATION:** DeVry University, 2149 West Dunlap Ave, Phoenix, Az 85021 (1 mile east of I-17 on Dunlap, SE corner of 22<sup>nd</sup> Ave and Dunlap).

See [www.ieee.org/phoenix/compsociety](http://www.ieee.org/phoenix/compsociety), for more information.

Contact Bob Bianca ([Bob.Bianca@Computer.Org](mailto:Bob.Bianca@Computer.Org))



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## IEEE Components, Packaging and Manufacturing Technology Society, Phoenix Chapter



Components, Packaging,  
and Manufacturing  
Technology

May 18, 2004 Meeting

### Fuel Cells for Portable Power Applications

Dr. Ramesh Koripella,  
Motorola, Tempe, AZ.

#### Abstract

Power demand for portable electronic devices is constantly increasing with the improved performance and added functionality of the devices. Currently Li ion batteries are the main energy source for most portable electronic devices. Improvements in the energy density of the Li ion batteries are incremental, which limits the amount of energy stored in the cell. Frequent recharging of the batteries is also a major inconvenience. Fuel cells are actively being pursued by various companies as a potential high energy density alternative power source for portable electronic applications. The choice of the fuel and the design of a compact fuel cell system are key issues in the development of portable fuel cell power sources. Hydrocarbon fuels such as liquid methanol are very attractive fuels for portable applications because of their energy density and ease of storage and transport. Methanol fuel can be used directly as a dilute solution in direct methanol fuel cells (DMFC) or it can be reformed in-situ into a hydrogen rich gas at relatively low temperatures (200-300°C) to run hydrogen fuel cells. For each fuel cell system, there are critical development issues in areas such as fuel delivery, fuel processing, electrochemical energy conversion and development of miniature system components.

In this presentation, a brief overview of the fuel cell technology, choice of fuels and the types of fuel cells suitable for portable power applications will be given. Challenges involved in the development of fuel cell based portable power sources, issues involved in the commercialization of this technology and Motorola's development efforts in this will be discussed.

#### Biography

Ramesh Koripella is a distinguished member of the technical staff with Motorola - Microelectronics and the Physical Sciences Laboratory, in Tempe, AZ. He has been with the Motorola research labs, for 11 years, involved in the R&D efforts on Integrated Passives in LTCC modules, Hydrocarbon Exhaust Gas Sensor and for the past 5 years on the Portable Fuel Cell Power Source development efforts. Prior to Motorola, Ramesh was with KEMET Electronics in Greenville, SC for 7 years, involved in the multilayer ceramic capacitor R&D efforts on new dielectric materials and on improving the thermal shock reliability of the multilayer ceramic capacitors. He has 12 patents issued, published several papers and gave presentations at various technical conferences. Ramesh holds a Ph.D. from Univ. of Southern California, LA, in Materials Science and an MBA from Clemson University.

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**Date:** Tuesday, May 18, 2004

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



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**Time:** 5:30-6:00 Social/Refreshments, 6:00-7:00 Presentation, 7:00 Dinner  
(Pizza and Soda are being provided by the CPMT Phoenix Chapter)

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

*For more information please call any of the following officers:*

Sam Karikalan, STATS (480) 222-1722 Mali Mahalingam, Motorola (480) 413-5368  
Eric C. Palmer, Intel (480) 554-8710 Rao Bonda, Motorola (480) 413-6121  
Ravi Sharma, Microchip (480) 792-7920 Vasu Atluri, Intel (480) 554-0360



## **The Current State of Patented Technology in the Field of Organic Light Emitting Diodes**

**Tyson York Winarski, Esq.**  
**Patent Attorney**  
**Steptoe & Johnson, LLP**  
**Phoenix, Arizona**

### **Abstract**

Engineering and Law are inseparable in the Information Age. The vast wealth that technological innovations can bring makes legal protection a prime concern for engineers and corporations. One technology that holds great promise for the advancement of imaging applications is organic light emitting diodes. Today, numerous corporations and academic institutions are investing vast treasures in pursuit of organic light emitting technology to create advanced video displays, printers, and lasers. While researching this technology, the innovators are protecting their large investment of wealth, time, and creativity through patenting their technology. This presentation integrates the fields of engineering and law to provide a unique perspective on the development of organic light emitting diode technology. With institutions around the world racing to develop and profit from organic luminescent technology, engineers and institutions must keep track of not only the technology, but the legal protection of the technology as well.

Organic Light Emitting Diodes (OLEDs) are optoelectronic devices made by placing a layer of organic material between two electrodes. When a voltage potential is applied to these electrodes and current is injected through the organic material, visible light is emitted. Due to their high power efficiency, low cost of manufacture, durability, and the fact that they are lightweight, OLEDs represent the future of visual displays for portable electronic devices. This paper provides a summary of the current state of the art in the field of OLED technology. First, a situation report on the trends and competition in the patenting of OLED technology is provided to the reader. Then, the reader is presented with a basic introduction of OLED technology and a brief history of the development of OLED technology. The reader is then provided with a detailed description of manufacturing of OLED devices. Challenges facing OLED technology in the areas of fabrication, lifetime and breakdown, and heat generation are addressed. Finally, a presentation is made regarding the integration of OLEDs into displays and



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printers. Throughout this paper, these issues are discussed through an examination of the recent U.S. Patents issued in this field of technology.

## Biography

Tyson York Winarski is an associate in the Phoenix office of Steptoe & Johnson LLP, where his practice focuses on intellectual property matters. Mr. Winarski is a federally registered patent attorney with the US Patent and Trademark Office and graduate of the Arizona State University College of Law. Mr. Winarski is a member of both the Arizona and California State bars as well as the Court of Appeals for the Federal Circuit and the 9<sup>th</sup> Circuit Court of Appeals. With an undergraduate degree in Mechanical Engineering and a Masters Degree in Electrical Engineering focusing on semiconductors, Mr. Winarski serves his clients primarily in the areas of patent litigation, patent prosecution, technology transfer, e-commerce, Internet law, Internet trademark infringement, copyright litigation, software protection, and has provided expert witness testimony in federal district court on copyright licensing. In addition, Mr. Winarski is the sole inventor of U.S. Patent 6,688,053. He has taught undergraduate and graduate-level intellectual property courses at Arizona State University. Mr. Winarski is an associate member of the American Society of Mechanical Engineers, and a member of the Institute of Electrical and Electronics Engineers, and the American Intellectual Property Law Association. Throughout law school and his career, Mr. Winarski has authored several articles and seminar materials relating to engineering and intellectual property matters, in both technical and legal trade publications including: "Dielectrics in MOS Devices, DRAM Capacitors, and Inter-Metal Isolation," *IEEE Electrical Insulation Magazine*, Institute of Electrical and Electronics Engineers, November/December 2001, Vol. 17, No. 6, pg. 34-47, and "Technology Transfer at Universities", *Intellectual Property Today*, Vol. 10, No. 8, August 1003 pg. 8-10. You can contact Mr. Winarski at Steptoe & Johnson LLP, Collier Center, 201 East Washington Street, Suite 1600, Phoenix, Arizona 85004, Voice: (602) 257-5298, Fax: (602) 257-5299, Email: TWinarski@steptoe.com.

**Date:** May 6, 2004 **Location:** Arizona State University, Main Campus, Goldwater Center (GWC) Room 487

See <http://www.asu.edu/map/b2.html> for more details.

**Time:** 5:30-6:00pm Social/Refreshments, 6:00-7:00pm Presentation, 7:00pm Dinner (Pizza & soda are being provided by the WAD Phoenix Chapter)

For more information, please call Chuck Weitzel (Chapter Chair) at (480) 413-5906.