## The Valley Megaphone



## Newsletter of the **Institute of Electrical and Electronics Engineers, Inc., Phoenix Section** June, 2016 Volume XXX, Number 6

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**TBD** 

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### In this Issue of the Valley Megaphone: **Table of Contents**

### (Please Click on the heading below to go directly to that page)

U – News	2
Student Branches	2
Upcoming Conferences	4
CPMT Phoenix Chapter	
Communication_Society	12
Computer Society	13
Power & Energy Society	15
Waves & Devices	17
Life Member Affinity Group	20
IEEE Phoenix Section News	22
<b>Phoenix Section Executive Committee Meeting</b>	23
Phoenix Section LinkdIn Group	23
Phoenix Section on Social Media	24
IEEE Membership Grade Advancement	25
IEEE Member's Benefit	25

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

https://www.facebook.com/IEEEPhoenixSection

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

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

## Chapters

### Signal Processing & Communications

Andreas Spanias spanias@asu.edu

### Computer Society

Jerry Crow jerry.crow@computer.org

### **CPMT Society**

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

### **EMBS Chapter** TBD

## **EMC Society**

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### **Power & Energy Society**

Josh Gorman

josh@forman-co.com

### **Solid State Circuits**

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### Teacher-In-Service

Rickie Currens Rickie.Currens@att.net

### **Waves & Devices Society**

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## **Life Members**

Les Daviet II

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### Women In Engineering

Phoebe Henson

480-888-6396

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### Young Professionals

Jennifer Taggart, 928-581-5198 jennifer.taggart@asu.edu

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 advertisements 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://sites.ieee.org/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.

S. Diane Smith 602-749-4601 <u>sdianesmith@computer.org</u> Student Activities Chair

### **Update from ASU Polytechnic Student Branch**

The club is going through a transition process at the moment. With several of the officers graduating, myself included, Josh Carroll and I are working to fill the seats. He will update you with the names of the new board members. Due to time constraints the club was unable to begin any of the projects that they wanted to create. The coming fall semester will have some changes to allow the members more freedom in exploring their interests. We also plan on collaborating with the robotics club to work on some troubleshooting as well as projects both clubs are interested in. With the help of Dr. Parsey the club plans to have a much more productive fall semester.

Elizabeth Long
IEEE ASU Poly Chapter - Vice President
Ira A. Fulton School of Engineering
Arizona State - Polytechnic
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## Student Branches

### **ASU Main, Engineering**

Chair: Ngoni Mugwisi 480-567-4299,

## ieeeasuchair@gmail.com

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

### **ASU Main, Computer Society**

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

#### **ASU Main, Power and Energy Society**

Chair: Nikita Singhal nsinghal@asu.edu

Co-Chair: Deepak Ramasubramanian dramasu1@asu.edu
Advisor: Kory Hedman kory.hedman@asu.edu

### **ASU Polytechnic**

Chair: Josh Carroll jkcarrol@asu.edu
Elizabeth Long

### Elizabeth.a.long@asu.edu

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

### DeVry, Phoenix - Engineering

Chair: Diego Hernandez

### dhernan249@gmail.com

Advisor: Deanna Davis 602-749-4500

### ddavis1@devry.edu

Advisor: Roger S. Gulledge 602-749-4586 rgulledge@devry.edu

### DeVry, Phoenix - Computer Society

Chair: Alan Haley 602-749-4500

### alanhaley17@gmail.com

Advisor: Thomas Stein II 602-749-7397

### tsteinii@devry.edu

Advisor: Roger S. Gulledge 602-749-4586 rgulledge@devry.edu

### NAU, Engineering

Chair: Taylor Bruce tab383@nau.edu Advisor: Julie Heynssens Julie.Heynssens@nau.edu

### **Embry-Riddle, Prescott**

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

## **Update from DeVry University IEEE Student Branch**

The DeVry University IEEE Student Branch has been doing some work behind the scenes since the ending of our successful SkillsUSA event earlier this year. At this event, we provided judges and competitions for both the Engineering Technology and Information Technology Services participants.

We are working on new ways to reach out to a larger variety of students with a wider diversity of studies. We are currently planning internal competition days where students will be able to compete in friendly challenges that test both teamwork and critical thinking skills. Moving forward, we are nearing the date for our new school year to begin and will be hosting our annual elections as our Chair, Diego Hernandez, and Vice Chair, Oscar Jaquez will be stepping down with their graduation. We have successfully filled the Chair position, Andrea Gonzalez, and Vice Chair, Nahtasha Gonzalez, and would like to welcome them to this wonderful organization.

Diego Hernandez Chair, IEEE DeVry Student Branch Dhernan249@gmail.com



## THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.

## **Upcoming Conferences in Region 6**

### **Hello IEEE Student Members!**

Entertainment Technology in the Connect Age (ECTA 2016), will be at the Heritage Theatre, Campbell, CA on June 27-28, 2016.

2016 IEEE International Conference on Image Processing (IEEE ICIP) will be held at the Phoenix Convention Center, Phoenix, AZ on September 25-28, 2016.

4th Annual IEEE Conference on Technologies For Sustainability, will be held in Phoenix, AZ between October 9th and 11th, 2016.

<u>IEEE International Conference on Rebooting Computing (ICRC 2016)</u>, will be hosted at the Hilton San Diego/Del Mar, San Diego, CA on 17-19 October 2016.

## **Making the Future**

IEEE Region 6, the Santa Clara Valley Section and the Consultants Network of Silicon Valley (CNSV) are sponsoring a branded IEEE booth at the 2016 Maker Faire May 20-22, 2016 in the Make to Market Pavilion in San Mateo. There is a special 20% discount for IEEE members for one-day Maker Faire adult registration.

Maker Media is the organization that puts on Maker Faires all over the world (http://makerfaire.com). The company is an off-shoot of O'Reilly Media, the Sebastopol, CA publisher of mostly software programming books. Maker Media is based in San Francisco California. Maker Media and O'Reilly Publishing were recipients of 2015 Region 6 Directors awards.

According to the company web site the "Maker Faire is the Greatest Show (and Tell) on Earth—a family-friendly festival of invention, creativity and resourcefulness, and a celebration of the Maker movement. Part science fair, part county fair, and part something entirely new, Maker Faire is an all-ages gathering of tech enthusiasts, crafters, educators, tinkerers, hobbyists, engineers, science clubs, authors, artists, students, and commercial exhibitors. All of these "makers" come to Maker Faire to show what they have made and to share what they have learned."

The first Maker Faire was in May 2006 in San Mateo, CA. Since that initial event the Maker Faire movement has spread all over the world with full annual Maker Faires in over 14 cities such as Detroit, New York, Oslo, Rome, San Mateo, Salt Lake City, San Diego, Shenzhen (China), Taipei (Taiwan), Tokyo and over 119 independently produced Mini-Maker Faires in other cities (including Santa Cruz and Seattle in Region 6). In 2014 I was in Taiwan and stumbled upon a Maker Faire going on there.

The local Santa Clara Valley IEEE Section has participated in various ways in the San Mateo Maker Faires over the years with a booth in 2011 (manned by local volunteer and past section chair Lee Colby) and with a local group of technical organizations called the Silicon Valley Engineering Council (SVEC) in the years since then. IEEE volunteers have participated in various Maker Faire activities such as solder training stations. At the 2011 IEEE Sections Congress in San Francisco we had several folks associated with the Maker Faires do technical projects for the children of IEEE members that attended that event.

IEEE will have a branded IEEE booth at the 2016 San Mateo Maker Faire that will be manned by local volunteers including consultants and student members. Material and support for this booth are coming from various IEEE operating units coordinated by the MGA membership staff. One of the primary goals of the booth is to sign up new IEEE members and IEEE Collabratec participants. There will also be a video shoot of Maker Booths by the IEEE Public Visibility Committee during the Faire. IEEE members can get a 20% discount to register for a single day adult pass (this is the 5th choice down on the registration page) for the 2016 San Mateo Maker Faire using this link: https://www.eventbrite.com/e/maker-faire-bay-area-2016-tickets-20741987844?discount=IEEE20

Region 6 is looking into using this sponsorship as a path to additional future interactions with the Maker Media people that could include IEEE member participation in Maker Faires and mini-Maker Faires in the region, possible participation in

maker camps and maker spaces. We see participation in Maker Faires, First Robotics, Future Cities and other STEM activities as an important part of our IEEE outreach and to help bring in and retain more members to the IEEE community. We hope that you can join us in this effort!

Tom Coughlin
Director, IEEE Region 6
tom@tomcoughlin.com

### 2016 IEEE International Conference on Image Processing (IEEE ICIP)

Phoenix Convention Center, Phoenix, AZ, 25-28 September 2016.

Website: 2016.ieeeicip.org

IEEE ICIP 2016 is the event for researchers, developers, product creators, educators and students who want to share, learn about, and advance the state-of-the-art in the areas of image/video processing, image/video communications, computer vision, computational imaging, and visual technologies based applications.

IEEE ICIP attendees include more than 1000 experienced researchers/developers including educators, engineers, computer scientists, and students, providing great networking and recruiting opportunities.

### **Important Dates:**

Special Session and Tutorial Proposals: November 16, 2015

Paper Submissions: January 25, 2016

Visual Technology Innovation Award Nomination: March 31, 2016

Visual Technology Showcase Submission: May 15, 2016

### **IEEE ICIP 2016 highlights:**

- nominate an individual or team for the Visual Innovation Award by 31 March 2016: This Award was created to recognize pioneers of transformative technologies and business models in areas within the technical scope of IEEE ICIP. The Award showcases innovations that have had great impact on human experiences with technology or are anticipated to do so in the near future. The Award Committee consists of well-known industry executives, visionary entrepreneurs, and scholars.
- maximize the visibility of your work via free open preview: Papers accepted to ICIP 2016 will (upon author approval) be available in their final accepted format on IEEE Xplore, freely accessible and downloadable by all in their final format from Aug 20,2016 through September 30, 2016.
- maximize your networking and career connections: attendees will be given the opportunity to upload their CVs to be shared among interested recruiters for full-time, part-time, and consulting job opportunities. These CVs will be made available through a password-protected searchable platform to ICIP 2016 supporters/recruiters.
- experience state-of-the-art visual technology products and prototypes at the ICIP'16 Visual Technology Showcase. IEEE ICIP 2016 will feature a Visual Technology Showcase where technology creators and developers can present live demos of recent visual technologies and prototypes. Participants who are interested in demoing their technology should submit a description of the technology at the IEEE ICIP 2016 website by 15 May 2016.
- attend presentations, tutorials, and training courses by experts in the areas of image/video processing, image/video compression, computer vision, computational imaging, biomedical imaging, and other topics within the scope of IEEE ICIP 2016.



General Chair Lina Karam

Arizona State University
Vice-General Chair

Aggelos Katsaggelos Northwestern University

**Technical Program Chairs** 

Fernando Pereira Instituto Superior Técnico

Gaurav Sharma University of Rochester

Innovation Program Chairs

Haohong Wang TCL Research America

BDTI & Embedded Vision Alliance Khaled El-Maleh Qualcomm Technologies Inc.

Finance Chair

Sohail Dianat Rochester Institute of Technology

Plenary Chairs

Michael Marcellin University of Arizona Sethuraman Panchanathan Arizona State University

Special Sessions Chairs

Dinei Florencio Microsoft Research Chaker Larabi Poitiers University

Zhou Wang University of Waterloo

Challenge Sessions Chair Dinei Florencio

Microsoft Research

Microsott Kesear
Tutorials Chairs

Ghassan AlRegib Georgia Tech

Rony Ferzli

Publicity Chair Michel Sarkis

Qualcomm Technologies Inc.
Paper Awards Chairs

Vivek Goyal Boston University Ivana Tosic

Ricoh Innovations

**Exhibits Chair** 

David Frakes Arizona State University & Google

**Publication Chairs** 

Patrick Le Callet Nantes University

Baoxin Li Arizona State University

Local Arrangement Chair

Pavan Turaga Arizona State University

Registration Chair

Ricardo De Queiroz Universidade de Brasilia The 23rd IEEE International Conference on Image Processing (ICIP) will be held in the Phoenix Convention Centre, Phoenix, Arizona, USA, on September 25 - 28, 2016. ICIP is the world's largest and most comprehensive technical conference focused on image and video processing and computer vision. In addition to the Technical Program, ICIP 2016 will feature an Innovation Program focused on vision technologies and fostering innovation and networking. The conference will feature world-class speakers, tutorials, exhibits, and a vision technology showcase.

Topics in the ICIP 2016 Technical Program include but are not limited to:

Filtering, Transforms, Multi-Resolution Processing Restoration, Enhancement, Super-Resolution Computer Vision Algorithms and Technologies Compression, Transmission, Storage, Retrieval Computational Imaging

Color and Multispectral Processing
Multi-View and Stereoscopic Processing
Multi-Temporal and Spatio-Temporal Processing

Video Processing and Analytics
Authentication and Biometrics
Biological and Perceptual-based Processing
Visual Quality Assessment
Scanning, Display, and Printing
Document and Synthetic Visual Processing
Applications to various fields

### New initiatives at ICIP 2016 include:

1) Open preview for accepted papers on IEEE Xplore; 2) Visual Innovation Award (individual or team nominations due by 31 March 2016 at conference website); 3) Support for reproducible research; 4) Support for CV uploads on the ICIP site for full-time, part-time, and consulting job opportunities; 5) Visual Technology Showcase (submission due by 15 May 2016). For more details on these and other new initiatives at ICIP 2016, visit 2016.ieeeicip.org and connect now on the ICIP 2016 social media to get automatic updates about the various deadlines, sessions and events.

### Paper Submission:

Prospective authors are invited to submit full-length papers at the conference website, with up to four pages for technical content including figures and references, and with one additional optional 5th page for references only. Submission Instructions, templates for the required paper format, and information on "no show" policy are available at 2016.ieeeicip.org.

### Tutorials, Special Sessions, and Challenge Sessions Proposals:

Tutorials will be held on September 25, 2016. Tutorial proposals should be submitted at the conference website and must include title, outline, contact information, biography and selected publications for the presenter(s), and a description of the tutorial and material to be distributed to participants. For detailed submission guidelines, please refer to the tutorial proposals page. Special Sessions and Challenge Session Proposals should be submitted at conference website and must include a topical title, rationale, session outline, contact information, and a list of invited papers/participants. For detailed submission guidelines, please refer the ICIP 2016 website at 2016.ieeeicip.org.

### Important Deadlines:

Challenge Session Proposals: October 30, 2015

Special Session and Tutorial Proposals: November 16, 2015

Notification of Special Session and Tutorial Acceptance: December 18, 2015

Paper Submissions: January 25, 2016

Notification of Paper Acceptance: April 30, 2016 Visual Inovation Award Nomination: March 31, 2016 Visual Technology Showcase Submission: May 15, 2016

Notification of Visual Technology Showcase Acceptance: May 30, 2016

Revised Paper Upload Deadline: May 15, 2016 Authors' Registration Deadline: May 15, 2016

















## IEEE Conference on Technologies for Sustainability Oct 9-11 2016



### SusTech 2016 - Call for Papers Deadline Extended to June 24th 2016

4<sup>th</sup> Annual IEEE Conference on Technologies for Sustainability Phoenix, AZ. October 9 - 11, 2016

**Sustainability**: the pursuit of environmentally sound development that meets the needs of the present without compromising the future!

The 4<sup>th</sup> Annual IEEE Technologies for Sustainability (SusTech 2016) Conference is designed to explore the development and application of science, engineering and technology in achieving a sustainable lifestyle for humanity. It brings together scientists, engineers, technologists and scholars from multiple disciplines to hold a dialogue on environmental issues and collaborate on ideas to develop and utilize innovative tools and intelligent systems to address them. The attendees are expected to be exposed to the tools, connections and proactive solutions to take their sustainability programs to the next level.

SusTech 2016 conference will feature **technical papers**, **posters and workshops**. A number of prominent experts will be giving keynotes and invited talks. Best Posters and Papers in the conference will be eligible for an award. Full papers will be published in the Conference Proceedings. Conference content that meet IEEE quality review standards will be submitted for inclusion into IEEE Xplore as well as other Abstracting & Indexing (A&I) databases.

Proposals are solicited for both **oral and poster presentations** from industry, government and academia (including students) covering relevant research, technologies, methodologies, tools and case studies. Topics with policy implications are also welcome. Poster presentations this year will be limited to students.

### **Topics of Interest**

**Internet of Things - IOT** (e.g.: Sensors, computing, control, communication, storage and drive electronics targeted for IOT applications, medical electronics, drones)

Smart Grid (e.g. communication, control, power electronics, energy storage, demand control and response)

Waste: (e.g. reduction, conversion, disposal, recycling, reuse, harvesting, managing product lifecycle)

Renewable Energy (e.g. solar, wind, tidal, fuel cells, energy harvesting, nuclear, thermal, power distribution)

Water (e.g. Sourcing & distribution, conservation, harvesting, waste disposal, recycling)

Electronics (e.g. components and systems, sustainable manufacturing, automotive and industrial applications)

Energy Efficiency (e.g. sensing and measurement, energy saving, auto electrification & fuel economy, data centers)

Transportation (e.g. electric & autonomous vehicles, aviation, motors, drive controls, batteries)

**Societal Implications / Quality of Life** (e.g. global warming, sustainability education, human resources, risk management, remediation, public policy)

**Instructions to Authors:** Submit in PDF form, a one page abstract of the poster or oral presentation in via the <u>Sustech 2016</u> website. **Deadline** for paper and poster abstracts submission is **June 24, 2016**. Notification of acceptance will be by **July 15, 2016**. Final papers are due by **Aug 15, 2016**. For information for authors, please visit the conference website at <a href="http://sites.ieee.org/sustech/">http://sites.ieee.org/sustech/</a>. Select Authors tab and follow the instructions there.

Vor	June 24, 2016	Submission deadline for paper and poster abstracts
Key Dates	July 15, 2016	Notification of acceptance
Dates	August 15, 2016	Final manuscript submission deadline

SusTech General Chair: Gopi Krishnan (gopi.krishnan@intel.com)
SusTech Program Chair: Vivek Gupta (vmgupta@msn.com)
SusTech Program Co-Chair: Ed Perkins (ed.perkins@frontier.com)

SUSTECH 2016 is co-sponsored by the IEEE Phoenix and Oregon Sections, IEEE Region 6 and IEEE-USA.

### PLEASE FORWARD THIS NOTICE TO YOUR COLLEAGUES



IEEE Conference on Technologies for Sustainability Phoenix AZ, Oct 9-11, 2016

Are you **passionate** about the environment and sustainability? Are you developing **innovative** solutions to drive sustainable development?

Are you interested in **learning** from and **collaborating** with technology and community leaders?

## If so, YOU MUST ATTEND SUSTECH 2016!

- The 2016 IEEE Technologies for Sustainability (Sustech) conference will be held in Phoenix, AZ on October 9-11, 2016 aims to explore the development and application of science, engineering, and technology to promote sustainability.
- The 2016 conference will bring together sustainability leaders in industry, academia, and government in a three day conference involving technical talks, poster sessions, professional development courses, and key notes.
- **Topics** include Energy, Water, Electronics, Transportation, Internet of Things, Societal Implications, and more, with **Professional Development Courses** on Cleantech Entrepreneurship, Makers and Sustainability and more.

Learn More: <a href="http://sites.ieee.org/sustech/">http://sites.ieee.org/sustech/</a>
Questions: <a href="mailto:gopi.krishnan.2015@ieee.org">gopi.krishnan.2015@ieee.org</a>



# IEEE Components, Packaging and Manufacturing Technology Society Phoenix Chapter

## 2015 Executive Committee for CPMT Chapter for IEEE-Phoenix Section

Position	Name	Phone Contact	Email Contact
Chair	Dr. Mahesh K. Shah	(480) 544-9438	mkshah@ieee.org
Asst. Chair	Mr. Vivek Gupta	(480) 734-2366	vmgupta@msn.com
Secretary	Dr. Rao Bonda	(480) 786-7749	r.bonda@ieee.org
Treasurer	Mr. David Dougherty	(480) 245-8099	david.dougherty@nxp.com
Program Chair	Dr. Vasudeva P. Atluri	(480) 227-8411	vpatluri@ieee.org
Asst. Program Chair	Bharat Penmecha	(480) 552 2511	bharat.penmecha@ieee.org
Tutorial & Workshop	Dr. Vasudeva P. Atluri	(480) 227-8411	vpatluri@ieee.org
Chair			
Website Co-Chair	Marc Liciardi		marc@dfxengineering.com
Website Co-Chair			

**Tentative Schedule for Monthly Seminars** 

Date	Topic	Speaker
Jan. 20, 2016	Understanding and Managing the Key Cost Drivers in	Marc Licciardi
	PCB Design to Optimize Performance and Cost	
Feb. 17, 2016	Roadmaps As We Approach The End of Moore's Law	Dr. Bill Bottoms
	Scaling	
Mar. 23, 2016	System Level IC Packaging - An Overview of the	Mike Kelly
	Technology	
Apr. 27, 2016	Design for Signal Integrity in a "Material" World	Chudy Roosevelt
_		Nwachukwu,Intel Corp.
May. 11, 2016	Analyses of Oxide Ferroelectrics on GaN by Sol-Gel and	Prof. Sandwip K. Dey,
•	MOCVD	ASU
Jun. 6, 2016	<b>Understanding the Optical, Thermal, and Electrical</b>	Prof. Shi-Wei Ricky Lee,
	Performances of LED and their Relationship to	HKUST
	Efficiency of Solid-State Lighting	
Jul. 13, 2016	Recent Advances and New Trends in Semiconductor	Dr. John H. Lau
	Packaging	
Aug. 17, 2016	Fluxless Thermo-Compression Bonding Process for 3-D	Dr. Katsuyuki Sakuma
	Interconnect	
Sep. 21, 2016	On-Chip Embedded Cooling of Power and Logic	Prof. Avram Bar-Cohen
-	Components	
Oct. 19, 2016	Heterogeneous Integration Technology Roadmap	Dr. William Chen
Nov. 7, 2016	3D Interconnects, Materials, Processes, Reliability, and	Prof. Karlheinz Bock
	Applications	
Dec. 14, 2016	Current and Future of Microelectronic Packaging	Darvin Edwards
,		



## **SP-COM Phoenix Chapter**

## Please join our Google Group!

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

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

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



## **Phoenix Chapter of the IEEE Computer Society**

June, 2016

## **Meetings**

Our April chapter meeting was held at DeVry University, Phoenix Campus. Hal Berghel, an IEEE Distinguished Speaker, presented to our chapter on Stuxnet, its ramifications and aftermath. Hal's presentation, as usual, was excellent.

The dates for the remaining meetings in 2016 are shown below. We have confirmed speakers for June and August.

•	June 8 <sup>th</sup>	ITT Tech in Tempe
•	August 10 <sup>th</sup>	ITT Tech in Phoenix
•	October 12	ITT Tech in Tempe
•	December 14th	ITT Tech in Phoenix

Our next chapter meeting will be held on Wednesday, June 8th, at the Tempe campus of the ITT Technical Institute. The meeting will begin at 6:00 PM with light refreshments and networking in the meeting room, followed by the presentation at 7:00 PM. The location of the meeting room will be posted in the lobby. The address of the venue is 5005 S. Wendler Drive, Tempe. Note that this is the Tempe campus of ITT Technical Institute. We have been alternating our meetings between east side and west side locations and have previously met at the Phoenix campus of ITT Tech. This meeting will be in Tempe and we will return to the west side location later in the year. We thank ITT Technical Institute and its staff for permitting us to use their excellent venue for our meetings.

Note that this date is the second Wednesday of the month. Recall that beginning this year we are meeting on the second Wednesday of the even numbered months.

The presenter for this meeting will be Hoyt L. Kesterson II. His presentation is entitled **"Everything We are Doing with Passwords is Wrong"** 

### **Presentation**

## "Everything We are Doing with Passwords is Wrong"

Can we make passwords stronger yet easier to remember than those typically created to satisfy compliance requirements? Why do some restrictions on password composition, e.g. a complexity requirement mandating a password must contain a letter and a number—actually make passwords weaker and easier to crack. The top three takeaways from this presentation are:

Why passwords are not doing the job.

- How does one describe a compensating control to an auditor to prove the implemented method is stronger than recommended approaches?
- What other artifacts—e.g. masking, forced periodic prophylactic password changes—of the recommended approach should be revisited?

### **Presenter**

Hoyt L Kesterson II is a senior security architect with Terra Verde Services. He's been doing security for a really long time. He's a CISSP, a QSA, a testifying expert, and a co-chair of the American Bar Association Electronic Discovery and Digital Evidence committee. He's a frequent presenter at the RSA Security Conference.

All meetings begin at 6:00 pm and end at 9:00 pm. The venue locations vary as we try to balance venues between the east side of the valley and the west side.

We are seeking volunteers for assistance in the operation of the chapter, from program acquisition to meeting preparation to the officer positions. If you are interested in volunteering or would like to suggest a topic or speaker for a future meeting, please let one of the officers noted below know via email.

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

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



# IEEE Power and Energy Society Phoenix Chapter



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

# 59" ANNUAL IEEE-PES PHOENIX FUNDRAISING GOLF



Be sure to join us at the Legacy Golf Club, located at 6808 South 32<sup>nd</sup> Street, for a 1:15PM Shotgun Start. The course is located 10 Minutes south of Sky Harbor Airport.

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 place, second place, and third place teams. There will also be a Raffle, Skills Games, and Giveaways Galore.

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
- Return this form electronically (distribution@gorman-co.com) and then send your payment.
- Send payments to: IEEE-PES

c/o Gorman Company 4819 35<sup>th</sup> Street Phoenix AZ 85040

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 (602) 470-0400.

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

**Additional Dinner Guests:** 

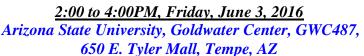
Please provide all requested information, including email addresses for all team members.

# INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS WAVES AND DEVICES - Phoenix Chapter





Meeting Free & Open to Non-IEEE Members





# NONLINEAR PHOTONICS FOR EFFICIENT TERAHERTZ-WAVE GENERATION AND DETECTION

## Hiroaki Minamide

Tera-Photonics Research Team, RIKEN Center for Advanced Photonics, RIKEN, Sendai, Japan

## **Abstract**

Terahertz (THz) waves, which are defined generally to be the frequency region of 0.1-10 THz, has attracted a great deal of interest for a growing number of applications, including spectroscopy, imaging, and sensing. The wavelength conversion in nonlinear optical crystals is one of the most efficient methods in order to generate and detect coherent THz-wave radiation.

One of the most promising crystals in the range of 1-3 THz region is MgO-doped lithium niobate (MgO:LiNbO3) crystal. When the pump excitation is sufficiently strong, the stimulated Raman scattering (SRS) by phonon-polaritons in MgO:LiNbO3 crystal gives rise to frequency down-conversion of incident pump photons. In this process, THz-wave and idler photons are parametrically produced from a pump photon according to both energy and momentum conservation laws. Recently, we have demonstrated ultra-bright THz-wave parametric generation with MgO:LiNbO3 crystal by using sub-nanosecond pump pulses from a microchip Nd:YAG laser. The frequency-tunable THz-wave output is now much greater than 10 kW at peak power. Toward the performance enhancement of this THz-wave source, we have also performed accurate measurement of parametric gain in MgO:LiNbO3 crystal using surface-coupling configuration.

Another talented crystals for higher frequency range over 3 THz are organic nonlinear crystals of 4-dimethylamino-N'-methyl-4'-stilbazolium tosylate (DAST) and N-Benzyl-2-methyl-4-nitroaniline (BNA). With DAST crystals, we have succeeded in developing ultra-wide tunability of sub-THz to 50 THz range. And also in detection, a highly sensitive real-time THz-wave imaging technique by using optical frequency up-conversion has been demonstrated. Thanks to the high nonlinear coefficient of DAST crystal, the transmitted THz-wave images through samples are efficiently up-converted to near-infrared (NIR) images and then captured by a commercial InGaAs NIR camera working at 60 frames per second (fps). The sensitivity of this real-time THz-wave imaging at 19.3 THz is higher than that of commercially available THz-wave cameras at room temperature. In this talk, we will present promising nonlinear optical crystals and our recent work on ultra-bright THz-wave generation, highly sensitive THz-wave detection and real-time THz-wave imaging using them, which are powerful techniques for various THz-wave applications and pave the way for new applications.

## **Biography**



Hiroaki Minamide (M'12) received the B.S. degree in communication engineering, and M.S. and Ph.D. degrees in electronic engineering from Tohoku University, Japan, in 1993, 1996, and 1999, respectively.

In same year after Ph.D. student, he joined in a frontier researcher at the Photo-Dynamics Research Center of RIKEN and started to study on developing terahertz-wave source using nonlinear optical effect. He demonstrated a frequency-agile THz-wave in a ring-cavity

configuration, which cover a wide frequency region from 1 to 3 THz. And he continuously joined in a new project of Teraphotonics team from 2005, RIKEN Sendai and he was a deputy team leader from 2007 to September 2010. His research is spread into development of ultra-wide tunable THz-wave in the frequency-region from sub-THz to several tens THz using organic nonlinear crystal. Additionally, high sensitive THz-wave detection with rapid time-response and room-temperature operation using nonlinear optical up-conversion is studied. From October 2010, he leads Teraphotonics team as a Team Leader in the second term of RIKEN THz research project. And now he is a Team Leader in new THz research project which starts from April 2013 in RIKEN. Recently, his research interests include high-power THz-wave generation and extremely sensitive THz-wave detection using nonlinear optics and their unique THz applications.

He is a member of The Institute of Electrical and Electronics Engineers (IEEE), Optical Society of America (OSA), The Institute of Electronics, Information and Communication Engineers (IEICE), The Optical Society of Japan (OSJ), The Japan Society of Applied Physics (JSAP), and The Laser Society of Japan.

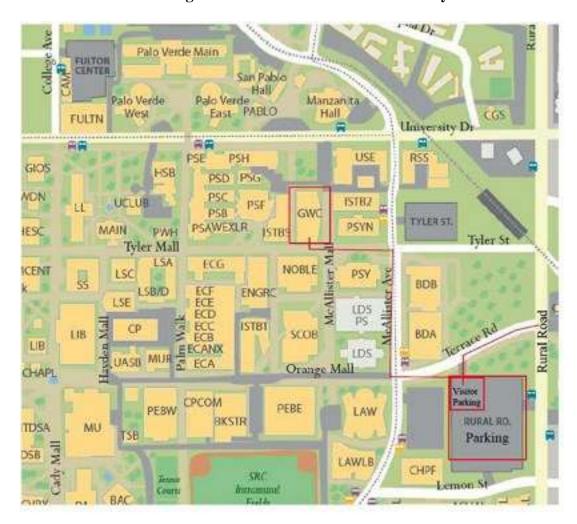
For more information https://meetings.vtools.ieee.org/m/40015, or contact:

Steve Rockwell (WAD Chapter Chair) (480) 241-9891 Curtis Scott (WAD Chapter Secretary) (623) 703-9177 steve.rockwell@ieee.org curtis.scott.us@ieee.org **Date:** Friday, June 3, 2016

**Time**: 2:30-4:30 PM Presentations (Pizza will be served following the Seminar)

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

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





# Technical Presentation and Administrative Meeting Meeting Tuesday October 18, 2016

**Program Presentation:** In development

## **NOTE MEETING STARTS AT 11 AM**

## **Meeting Agenda:**

11AM: Attendee introductions

11.05 Lunch

11:20 AM: Program Presentation

12:20 Discussion of LMAGs survey and possible tours.

12:45 Admin. Meeting / Officers

Where: SRP's PERA Club Bighorn Room,

1 East Continental Drive, Tempe, AZ

Continental is West of 68th St., ½ mile south of McDowell Road

Enter the Private PERA Club and follow drive to large parking lot. Big Horn is small building at South East corner of lot.

**When:** Tuesday October 18, 2016 <u>- 11:00am – 1:00pm</u>, Registration fee is \$15. This fee will include lunch provided by the PERA Club. Students attending will not pay the fee.

Lunch: TBD

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

**Technical Presentations:** The Program Chair is seeking suggestion from members for future presentations and/or tours of local facilities of interest. Please contact Barry Perlman Program Chair at barry.perlman@gmail.com.

About IEEE Phoenix Section Life Member Affinity Group: The IEEE Phoenix Section Life Member Affinity Group was organized to enable IEEE Life Members to retain active IEEE associations, contribute to the social good in their communities, advance IEEE's professional interests and enjoy each other's company.

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

- Tuesday October 18, 2016
- Tuesday December 20,2016

The Officers are as indicated below.

### Officers:

Chair Leslie Daviet II <u>lesdavietii@gmail.com</u>
Vice Chair Jim Tang <u>JFTANG@cox.net</u>
Secretary Tom Lundquist <u>tom.lundquist@ieee.org</u>

Treasurer	Gary Frere	gary.frere@gmail.com
Membership	Rao Thallam	Rao.Thallam@gmail.com
Facilities	Ron Spraque	r.sprague@ieee.org
Program	Barry Perlman	barry.perlman@gmail.com
Past Chair	<b>Barry Cummings</b>	abarrycummings@gmail.com



### **IEEE Phoenix Section Officer Terms**

At the November 3, 2015 Executive Committee (ExCom) meeting of the IEEE Phoenix Section officers and representatives of the affiliated Chapters and Affinity Groups, a decision was made to change the term of IEEE Phoenix Section Officers from one year to two years in accordance with the bylaws the Phoenix Section operates under. The rationale of this decision included operational efficiency and effectiveness of individuals being in a position for two years and thus more able to implement improvements; program continuity and planning; and improved section operations.

Per the Phoenix Section website (<a href="http://sites.ieee.org/phoenix/about/section-bylaws/">http://sites.ieee.org/phoenix/about/section-bylaws/</a>), the Phoenix Section is "required to operate in accordance with IEEE Constitution, Bylaws, Policies, and the MGA Operations Manual." Per Section 9.4.F.7.b. of the MGA Operations Manual:

• "The term of office for all officers shall be one or two years. A Section must define the officer term as one or two years and record it in its local operating procedures document; if the officer term is not recorded in the local operating procedures document, it shall be two years. An individual may continue in the position until a successor has been duly elected and takes office."

There may be times when an individual is unable to serve for two years in a position so annually the Nominating Committee will confirm with each officer their willingness and ability to serve in the specific position for the second year of their term. If someone needs to drop out after their first year or be replaced, the Nominating Committee will identify replacements and place them on the ballot for election. Typically, the officer succession plan is to request individuals serving as officers to progress through the various positions but this is not a requirement.

The purpose of this notice is to record the decision reached regarding Phoenix Section Officers serving two year terms. Please contact any of the Phoenix Section Officers if you have questions or input. Thank you.

## **Executive Committee Meeting**

No meeting of Executive Committee in July & August

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

## **2016 Executive Committee**

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

## **Executive Committee Meetings**

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

**Time:** 6:00 - 8:00 p.m.

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

### **IEEE Phoenix Section: Calendar of Activities**

For any questions and inputs regarding the calendar of activities, please contact Dr. Surinder Tuli, Vice Section Chair, at <a href="mailto:Surinder.tuli@gmail.com">Surinder.tuli@gmail.com</a>.

### **June 2016**

Review meeting schedules of Chapters Nominations received by Nominating Committee

### July and August 2016

Summer Break -Section

### **IEEE Senior Member and Fellow Grade**

IEEE Phoenix Section Membership Development would like to nominate eligible IEEE Members from the Section to Senior Member and Fellow Grades. Please review the requirements at <a href="https://www.ieee.org">www.ieee.org</a> for eligibility.

Eligible candidates are requested to send in their resumes to Dr. Vasudeva P. Atluri, Membership Development Coordinator, at <a href="mailto:vpatluri@ieee.org">vpatluri@ieee.org</a> and Dr. Bruce Ladewig, Section Chair, at <a href="mailto:bruceladewig@ieee.org">bruceladewig@ieee.org</a> for consideration.

## **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.

You can also go to IEEE Phoenix Section LinkdIn page by clicking button on the <u>IEEE Phoenix Section home</u>

## IEEE Phoenix Section Ventures into Social Media

You can access the web page three ways:

Use the URL: <a href="https://www.facebook.com/lEEEPhoenixSection">https://www.facebook.com/lEEEPhoenixSection</a>

Click on the Facebook logo link from <u>IEEE Phoenix section home page</u>. Search for IEEE Phoenix Section from your Facebook page.

We need following help.

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

## **IEEE Membership Grade Advancement**

IEEE Phoenix Section Executive Committee encourages all to apply for advancement in membership grade to Senior Member and Fellow Grade. Please review the requirements at <a href="www.ieee.org">www.ieee.org</a>. Please contact IEEE Phoenix Section Membership Development Chair, Dr. Vasudeva P. Atluri, at <a href="wypatluri@ieee.org">wpatluri@ieee.org</a> for additional information.

## **Enhanced Senior Member Application Launched**

Effective 29 July 2011, IEEE Admission and Advancement launched a <u>new Senior Member Application</u>. The new application includes numerous enhancements, based on feedback from volunteers and members, including:

- New user friendly format / design
- Secure environment (need IEEE Web account)
- Ability to save application in "draft" form
- Ability to upload resume or Curriculum Vitae (up to 3 MB)
- Applicant can view application online
- Applicant can view status of requested reference forms
- References will be notified by email to provide applicant reference
- References will have the ability to view their completed reference form(s)
- Real time application status

The goal is to provide prospective Senior Members with an easy to use and intuitive interface, while streamlining internal operations at the same time. View the new Senior Member application.

## **IEEE Member's Benefits**



### **Job Seekers**

Look for job postings and other career opportunities in IEEE Collabratec. Visit the Opportunities section to:

- $\bullet$  Search job listings and filter by location, interest, and posting date.
- Manage your saved job listings for quick reference and review.

There are over 2,100 job posted in IEEE Collabratec in technical areas such as:

- Communications (signal processing), over 1,000 jobs posted
- Energy, over 600 jobs posted
- Information Technology, over 600 jobs posted
- Nuclear and Plasma Sciences, over 300 jobs posted
- Biomedical Engineering, over 300 jobs posted
- Cybersecurity, over 100 jobs posted

## **Have Recruiters Find You**

industries. Get started by enabling your Employment Preferences under the Settings tab in Opportunities. Identify your desired interest in areas such as:

- Job type (Full-time, Part-time, Temporary, Internship)
- Preferred amount of business travel
- Willingness to relocate
- Employer location (Country, State, City)
- Annual salary

Upload your CV/Resume to further enhance your visibility to recruiters. Recruiters will be searching for potential candidates by using search tools that scan your CV/Resume for key word matches.

### Thank you to the Charter Sponsors of IEEE Collabratec



### **Member Discounts**

IEEE members can access more savings in more places for home and office including group discounts on insurance, travel, home/office and technology needs. While you focus on your career, well take care of saving you money. See vendor details for terms, conditions and availability.

Visit the Member Discounts page at <a href="https://www.ieee.org/discounts">www.ieee.org/discounts</a> to discover this added perk of IEEE Membership.

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\* Discounts and savings are available where state laws and regulations allow, and may vary by state. To the extent permitted by law, applicants are individually underwritten; not all applicants may qualify.

### Be Prepared: May is Disability Insurance Awareness Month

Brought to you by the IEEE Member Group Insurance Program

What if you become disabled and you were not able to work? How would you continue to pay your bills and take care of your family?

Now is a good time to ask yourself these questions and evaluate your financial protection. Disability insurance helps provide valuable income protection and peace of mind, but many people



underestimate their risk or need for it. <u>Here are some common myths and facts about</u> disabilities to help make sure you're aware AND prepared.

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

As a special benefit of IEEE Membership through 15 June, IEEE-USA is offering a free eBook, *Starting Your Start-Up Book 5: The Launch*, by author Tanya Candia.

The Launch presents a detailed roadmap to successfully launching a company and product, from setting realistic goals for the launch, determining the key messages, and preparing the sales team--to briefing the press and analysts, finding the right venue, and enlisting the help of early customers. This book takes you through all the necessary steps to a successful launch.

Candia writes that a company or product launch should achieve some well-defined goals. But she reveals many entrepreneurs don't comprehend the launch purpose, and most technologists don't understand when or how to launch a company or product. Further, Candia says if there is no clear understanding about the need for a launch, it will be difficult to set realistic goals.



The launch, Candia shares, should build brand awareness, smooth the process for sales efforts, build buzz around the company or product, and result in benefits that last far beyond the launch. And she presents the information in an easy way for the busy entrepreneurs to act upon and internalize it.

Some of the topics in *The Launch* are: The Definition of a Launch; The Intent and Expected Outcome; Timing; How to Develop a Launch Plan; How to Manage the Message; Implementing the Launch Plan; and Post-Launch: Where Do We Go from Here?

The last eBook in the *Starting Your Start-Up* series, *The Launch* is filled with exercises that will assist you in planning and executing a successful launch. Other titles in the Starting Your Start-Up series include:

- Book 1: Starting Your Start-Up
- Book 2: Market Size and Strategy
- Book 3: Competitive Analysis
- Book 4: Pricing Strategies



Members can download *Starting Your Start-Up Book 5: The Launch* for free through 15 June 2016. Sign in with your IEEE Account, add the book to your Cart, and enter the promo code**MAYFREE16** at checkout.

In June, IEEE-USA eBooks will offer *Shaping an Engineering Career Book 2: Dual Career Ladders*, by Raymond E. Floyd and Richard H. Spencer.

In *Dual Career Ladders*, Floyd and Spencer give a brief summary of their backgrounds; write about their experiences in a dual ladder career; what they learned along the way; and they offer insight to readers who may be considering a dual ladder" career path.

### IEEE-USA Webinars

## Workplace Civility & Employee Engagement: Two Hot Workplace Topics

Many employees today are faced with certain types of incivility in the workplace. From rudeness to belittling another employees efforts, to outright bullying. Our presenter Nathalie Thompson of 5 Fold Consulting has heard and seen all these things take place in many workplaces. Nathalie has extensive experience in conflict resolution and mediation and is often brought in by companies to address these workplace problems. IEEE-USA is sponsoring awebinar on Thursday, 16 June at 2:00



<u>pm EDT</u> so Nathalie can provide solutions to any IEEE member that might be facing these issues or mangers tasked with solving these complicated workplace issues. The webinar <u>Civility</u> <u>in the Workplace</u> designed to prepare all members to deal with this growing concern.

### **Employee Engagement**

Elizabeth Lions has again graciously volunteered her time to speak with IEEE members about *Employment Engagement*. An "engaged employee" is one who is fully absorbed by and enthusiastic about their work and so takes positive action to further the organization's reputation and interests. According to Gallup, only 30 percent of workers are engaged at work, which results in over US\$550 billion lost in productivity. Please join us on Friday, 24 June at 1:00 pm EDT for *Employee Engagement: How to Take the Reins and Get Involved* and let

Elizabeth walk us through what is employee engagement and why is it important.

## Refer a Colleague, Get Great Merchandise!

In conjunction with IEEE-USA, IEEE is excited to continue this special offer for U.S. members refer a colleague to IEEE. If they join before the end of the membership year, they'll get a 25% discount off their first year membership, and you'll get a gift. IEEE-USA gift items you can choose from include:

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Parker pen and mechanical pencil set

Parker ballpoint pen

Travel coffee mug and

Golf balls Baseball hat
Golf umbrella Travel umbrella

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

- Refer your colleague via the online form.
- Your referral will receive an email inviting them to join at a 25% discount off firstyear membership dues, and will receive benefits through 31 December 2017.
- Your referral will provide your IEEE member number when he or she joins.
- Within 1-2 weeks after your referral joins, you will receive an email confirming your recruiting success, including a link which allows you to select your IEEE-USA merchandise item.
- You will receive a separate email for each new member you recruit.

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

## IEEE in 2030 Challenge Seeks the "Next Big Idea"

For the second year, IEEE is holding the IEEE in 2030 Challenge, designed to discover innovative, creative, and potentially disruptive approaches to new products and services targeted to technology professionals in industry. The IEEE New Initiatives Committee is currently accepting proposals for short-term (completed in 12 months or fewer) projects. Submissions for the IEEE in 2030 Challenge are due by 1 July 2016.



Applications may be submitted by one or more IEEE members or organizational units, individually or in cooperation with an IEEE staff group. The proposals will be evaluated on their potential to lead to new IEEE products, services and communities delivering value to engineers and technology professionals working in industry.

For more information, and to submit a proposal, visit the 2030 Challenge page.

## **Build an Effective Resume/CV to**

## **Land the Perfect Job**

Utilize the resume and CV building tools in IEEE ResumeLab. Available to IEEE members at no additional cost, this is an effective way to build your resume or CV. Select from a wide array of templates



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Access IEEE ResumeLab

## **Generating Media Coverage for IEEE Members**

IEEEs Public Visibility Initiative continues its efforts to increase worldwide recognition of the IEEE brand and its members. This initiative is intended to foster awareness of members ongoing contributions to society for the benefit of humanity, and to elevate these IEEE members to their peers and the general public. To view additional member media coverage visit IEEE in the News.