

# THE REPORTER

Journal of the Central Indiana Section • IEEE

## IEEE SMART TECH

### METRO AREA WORKSHOP SERIES

Professional workshops in a learning environment



Advancing Technology  
for Humanity

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## IEEE

## Central Indiana Section

EnCON Presents - IEEE Metro Area Workshop

- Power Engineering
- Electric/Hybrid Vehicle
- Computer and Network
- Cyber Security/ Cyber Crime
- Biotechnology
- Medical
- Life Science

- Career Assistance
- Effective Job Search
- Intellectual Properties
- Project Management

Latest Trends in  
Emerging Topics  
for Practicing  
Engineers,  
Students & Retired  
Engineers

Technical  
Program

Professional  
Development

Tech  
Industry  
Exhibitors

Student  
Poster  
Contest

November 13 - 14, 2015

8:00 am - 5:00 pm

Indianapolis Marriot North

(Keystone/Fashion Mall area)  
3645 River Crossing Parkway  
Indianapolis, IN 46240

Register Now to  
Secure Your Spot!

For Conference Information &  
Registration, Please Visit:

<http://cis-ieee.org/EnCON>

Conference Contact Info:

Phil Walter -  
[Phil.Walter@ieee.org](mailto:Phil.Walter@ieee.org)  
Phone # 812-223-6520

David Koehler -  
[david.koehler@ieee.org](mailto:david.koehler@ieee.org)

Industry Exhibitor Sponsorship  
Opportunities, Contact:

Phil Walter -  
[Phil.Walter@ieee.org](mailto:Phil.Walter@ieee.org)  
Phone # 812-223-6520 OR  
Earl Hill - [eshill.loma@gmail.com](mailto:eshill.loma@gmail.com)

- In the Lobby all day both days
- Industry exhibits and sponsorships are available

- Evening Closing Remarks and
- Student Poster Contest awards ending at 6:00 pm

- Friday Night Reception from 5:00 to 7:00 pm
- \* Registration for both days includes Friday Reception
  - Plenary Speakers
  - Networking Breakfast, Breaks and Lunch
- Professional Development Hours : PDH & Continuing Education Units: CEUs Will be Available

IEEE Smart Tech Metro Area Workshops provide participants with a unique learning experience with topics on the cutting-edge of technical innovation today. This unique two-day conference is not only geared towards practicing engineers, but also students and retired engineers. This is an excellent opportunity for networking, knowledge sharing and professional development.

The material will be presented by some of the industry leaders. Whether you are just starting a career or have been practicing for many years, Saturday's program will give the attendees the skills necessary to find a job or help keep them competitive in today's ever changing business world.

Please join us to enhance your current knowledge and skill set and further your career.

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## Student Poster Contest

### CIS-IEEE EnCON / MAW

#### Student Poster Contest Rules

Student poster contest entrants need to prepare a 250-word abstract or design proof of a 36" by 48" poster by Friday, 2 October. Email entries to [michael.r.hayashi@ieee.org](mailto:michael.r.hayashi@ieee.org). No limit to number of entrants per institution for either the undergraduate or graduate track. A panel of judges will decide the winners in each track.

#### Registration Discount

Accepted groups for the contest will each pay \$80 for Saturday registration rather than \$100 normal student pricing.

For details, please visit:

<http://cis-ieee.org/EnCON/index.php>

**Date:** 14 November 2015

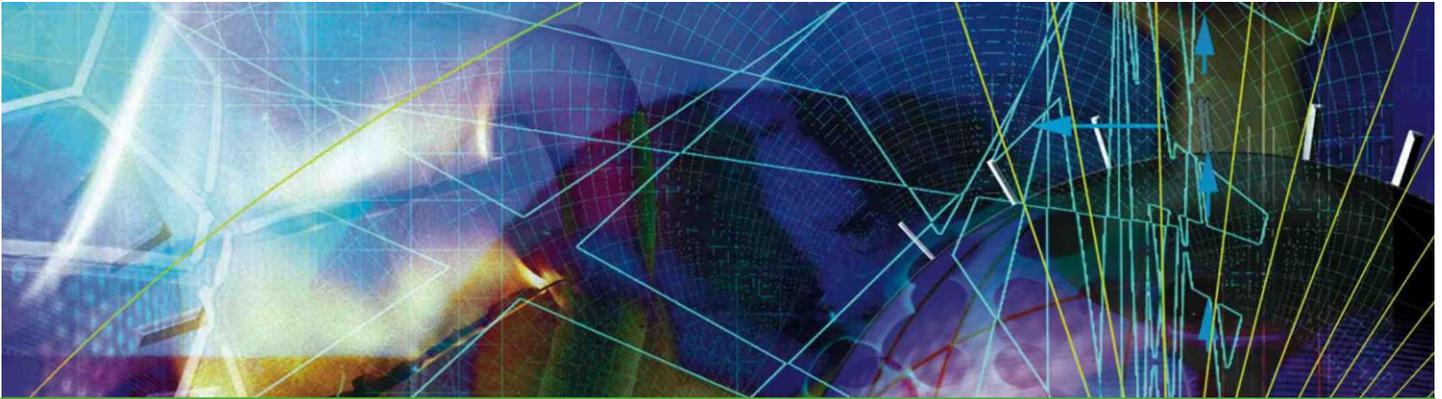
**Setup:** 7:15 AM to 9:00 AM

**Awards:** 5:00 PM to 5:30 PM

#### Location:

Indianapolis Marriott North  
3645 River Crossing Pkwy  
Indianapolis, IN 46240





# IEEE SMART TECH

## METRO AREA WORKSHOP SERIES

Professional workshops in a learning environment



**IEEE**

Advancing Technology  
for Humanity

## SPONSORSHIP OPPORTUNITIES CENTRAL INDIANA SECTION IEEE EnCON 2015

**Date:**

November 13 - 14, 2015

**Time:**

8:00 to 5:00 PM

**Location:**

Indianapolis Marriot North  
(Keystone/Fashion Mall area)  
3645 River Crossing Parkway  
Indianapolis, IN 46240

**Sponsorship Opportunities**

Contact Phil Walter  
[Phil.Walter@ieee.org](mailto:Phil.Walter@ieee.org)  
812-223-6520

*For conference information, please  
visit:*

[www.cis-ieee.org/EnCON](http://www.cis-ieee.org/EnCON)

The Central Indiana Section IEEE is sponsoring a unique two-day conference geared towards practicing engineers, students and retired engineers. The material will be presented by some of the industry leaders. Two levels of sponsorship opportunities are available for those companies who want to showcase their products or services.

- \$500 Sponsorship Level
  - 1 Complimentary Registration
  - Company Name and Logo on Conference website
  - Company Name and Logo on conference materials
  - Exhibitor space
- \$1000 Sponsorship Level
  - 2 Complimentary Registration
  - Company Name and Logo on Conference website
  - Company Name and Logo on conference materials
  - Exhibitor space

**Contact Phil Walter**  
[Phil.Walter@ieee.org](mailto:Phil.Walter@ieee.org) or 812-223-6520



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## Power & Energy / Industry Applications / Power Electronics Society News

Diana Vasquez, Chair, PES/IAS/PELS  
Ben Huckaba, Vice-Chair, PES/IAS/PELS

The PES/IAS/PELS August meeting was a course on Electromagnetic Interference (EMI) theory and EMI reduction techniques for modern power electronics. The material covered topics such as generation, measurement and suppression of EMI in single phase and three phase power electronics systems, and was presented in conjunction with the Dayton, Ohio PES/IAS/PELS Joint Chapter.

The first September meeting is scheduled to be a tour of the Mid-Continent Independent System Operator (MISO) facilities in Carmel. MISO controls the electric transmission grid across the Mississippi Valley and adjacent areas of the Midwest. It also operates the regional electric market. Advanced registration is required and space is limited. Please check section website for availability. The second September meeting will be a Lunch & Learn session on Energy Flow in Reactive Fields, presented by Hans G. Schantz, CTO of the Q-Track Corporation. The meeting will take place in the Frost Brown Building located in downtown Indianapolis. Registration and detailed information is also available at the section website.

In January the PES/IAS/PELS meeting will be an Overview of the Threat of Intense Geomagnetic Storms to High Voltage Grids, presented by Dr. William A. Radasky, Ph.D., P.E., IEEE Life Fellow of Metatech Corporation. The meeting will take place the IPL Morris Street location in the safety room. Registration and detailed information is also available at the section website.

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## Women in Engineering

Isabel Lujan, Chair, WIE

The Women in Engineering (WIE) joined the Cummins Electronic Controls Functional Excellence (ECFE) Conference Tech Fair representing the IEEE Central Indiana Section & all Affinity groups. Cummins Electronics and Controls organizational committee was very kind, providing one of their main tables to setup the IEEE informational booth.



An email was sent to IEEE members working at Cummins inviting them to join the event and support the booth. Umama Tasnia (IEEE CIS secretary) and Clyde Xi kindly volunteered during the event. Thanks to all who volunteered and visited the booth!

## CONGRATULATIONS to the Purdue IEEE Student Branch ROV Team!!!

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### Purdue IEEE Student Branch ROV Team Competes in International Competition

By Emily Bartusiak and Kyle Rakos

In June, the Purdue IEEE Remotely Operated Underwater Vehicle (ROV) team traveled to St. John's, Canada for the annual Marine Advanced Technology Education (MATE) International ROV Competition. The mission theme this year was offshore oil platform maintenance and repairs in the arctic. Purdue's ROV *Cerulean* was required to perform simulated tasks ranging from removing corroded pipelines to performing measurements for identifying galvanic corrosion. ROV members rigorously defended their design to the judges and performed in some of the most difficult missions in the competition's history. The team ranked 15<sup>th</sup> place out of 46 international and domestic teams that were invited to participate in the final round of the competition.



*The team poses for a picture with ROV Cerulean after the final mission*

The mission of the ROV team is to foster technical and professional skills of its members by designing, constructing, and testing an innovative underwater vehicle to compete in the MATE competition. This was the seventh year of the team, consisting of a record collection of twenty undergraduate students from backgrounds in electronics, software, mechanical systems, and more.

Despite a new captain and many new, inexperienced technical team members, the new team rose to the challenge of designing one of the most sophisticated vehicles to date. The Electrical Team designed multiple Printed Circuit Boards (PCBs), including a backplane for simple, modular connections of all electrical systems. The Mechanical Team designed one of the lightest frames that the team has seen, along with a centralized electronics tube for easy access. Additionally, the Software Team rewrote the GUI from scratch using the Qt framework in order to achieve a modern control system.

The many returning ROV team members are excited to apply the knowledge from the previous season to excel in the upcoming competition. Over 60 prospective members attended the first meeting of the team this season. Veteran team members are simultaneously developing new member's skills through training programs while brainstorming system improvements. As a major upgrade, the team intends to purchase high-performance, brushless DC thrusters. Further enhancements are planned for the visual systems, communication protocol, and waterproofing methods.

Purdue IEEE ROV Team is eagerly awaiting the competition at NASA's Neutral Buoyancy Lab in Houston, TX from June 23 - 25, 2016. For more information contact team captain Kyle Rakos at [krakos@purdue.edu](mailto:krakos@purdue.edu).

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October 6-8, 2015 (Tues. - Thurs.)  
 Hilton Hotel, Northbrook, IL



**\$300 discount if you register by September 15, 2015.**  
 We are also offering a special 50% discount on the October seminar to  
 attendees of previous D.L.S. seminars who used the 1st or 2nd edition.

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[www.dlsemc.com/emcdesignseminar](http://www.dlsemc.com/emcdesignseminar)

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**Congratulations to the IEEE CIS Section, Officers and Volunteers!**

We have met our 2015 Recruitment Goals!



**2015 Outstanding Section Membership  
 Recruitment Performance  
 Central Indiana Section**

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### Request for Volunteers

The IEEE Central Indiana Section is always looking for new and dedicated volunteers. The following positions are currently vacant or looking for replacements: Signal Processing Society Chair, Newsletter Editor, Finance Committee, Pre-University/Student Affairs

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2015 Meeting Calendar			
Date	Host	Subject	Location
Monthly	CIS	Executive Committee Meetings	Internet/Phone Bridge
13&14 Nov. 2015	CIS	Section Conference and Metro Area Workshop	Indianapolis, IN
... Check the <a href="#">Section web page</a> for details and current information.			

### ADVERTISER EVENT

October 6-8, 2015	DLS <a href="http://dlsemc.com">dlsemc.com</a>	See Advertisement on Page 6	Northbrook, IL
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### Central Indiana Engineering Web Links

ACEC	<a href="http://American Council of Engineering Companies, Indiana">American Council of Engineering Companies, Indiana</a>	acecindiana.org
ASCE	<a href="http://American Society of Civil Engineers">American Society of Civil Engineers</a>	inasce.org
ASME	<a href="http://American Society of Mechanical Engineers">American Society of Mechanical Engineers</a>	sections.asme.org/central_indiana
ASM-INDY	<a href="http://American Society for Metals - Indianapolis">American Society for Metals - Indianapolis</a>	asm-indy.org
CIECN	<a href="http://Central Indiana Engineering Consultants' Network">Central Indiana Engineering Consultants' Network</a>	indy-engineer.dnsalias.com
CINLUG	<a href="http://Central Indiana Linux Users Group">Central Indiana Linux Users Group</a>	cinlug.org
IHIF	<a href="http://Indiana Health Industry Forum">Indiana Health Industry Forum</a>	ihif.org
INCOSE	<a href="http://International Council on Systems Engineering">International Council on Systems Engineering</a>	incose-coa.org
INDSPE	<a href="http://Indiana Society of Professional Engineers">Indiana Society of Professional Engineers</a>	indspe.org
INDYASHRAE	<a href="http://American Society of Heating, Refrigeration, and Air Conditioning Engineers">American Society of Heating, Refrigeration, and Air Conditioning Engineers</a>	indyashrae.org
NSBE-IAE	<a href="http://National Society of Black Engineers - Indianapolis Alumni Extension">National Society of Black Engineers - Indianapolis Alumni Extension</a>	nsbe-ip.org
PIMCIC	<a href="http://Project Management Institute - Central Indiana Chapter">Project Management Institute - Central Indiana Chapter</a>	pmcic.org
SAE	<a href="http://Society of Automotive Engineers, Indianapolis">Society of Automotive Engineers, Indianapolis</a>	saeindiana.org
Sciencetech	<a href="http://Sciencetech Club in Indianapolis">Sciencetech Club in Indianapolis</a>	sciencetechclub.org
SIM	<a href="http://Indianapolis Chapter of Society for Information Management (SIM)">Indianapolis Chapter of Society for Information Management (SIM)</a>	SimNet.org
SWE-CI	<a href="http://Society of Women Engineers - Central Indiana Section">Society of Women Engineers - Central Indiana Section</a>	swe-ci.com
Techpoint	<a href="http://A diverse collection of technology-based Indiana industries">A diverse collection of technology-based Indiana industries.</a>	Techpoint.org

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Distribution: The Reporter is made available electronically to the approximately 1800 IEEE members within the Central Indiana Section including student members and faculty of Purdue, IUPUI, Rose-Hulman Institute of Technology and ITT Technical Institute.

**Central Indiana Section Active Volunteers**

**Director (Past Chair)** (317) 441-2076  
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**Chair** (812) 223-6520  
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**Vice Chair** (317)-230-6287  
Tim Alt [tim.alt@ieee.org](mailto:tim.alt@ieee.org)

**Treasurer** (317) 250-7932  
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**Secretary** (361) 437-4300  
Umama Tasnia [umama.tasnia@lhpssoftware.com](mailto:umama.tasnia@lhpssoftware.com)

**Power & Energy/  
Industry Applications Societies** (317) 726-1236  
Earl Hill [eshill@loma-consulting.com](mailto:eshill@loma-consulting.com)

**Computer Society** (317) 888-0611  
Joseph Benek [joseph.benek@wicor.com](mailto:joseph.benek@wicor.com)

**Signal Processing Society** (765) 494-3538  
Mimi Boutin [mboutin@ecn.purdue.edu](mailto:mboutin@ecn.purdue.edu)

**Engineering in Medicine and Biology Society**  
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David Chartash [dchartas@ieee.org](mailto:dchartas@ieee.org)

**Communications Society** (812) 237-3451  
Xiaolong Li [Xiaolong.LI@indstate.edu](mailto:Xiaolong.LI@indstate.edu)

**Central Indiana Engineering Consultants'  
Network (CIECN) Co-Chairs**  
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**Women in Engineering** 812.565.3777  
Isabel Lujan [isabel.lujan@ieee.org](mailto:isabel.lujan@ieee.org)

**Finance Committee**  
Vacant

**Central Indiana Section Active Volunteers (cont'd)**

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**Young Professionals** (317) 340-5905  
Jonah Crespo [jgcespo@umail.iu.edu](mailto:jgcespo@umail.iu.edu)

**Constitution and Bylaws** (812) 237-3399  
Yuetong Lin [lin.yuetong@gmail.com](mailto:lin.yuetong@gmail.com)

**Historian** (317) 845-5050  
Marvin Needler [mnpn@juno.com](mailto:mnpn@juno.com)

**Pre-University/Student Affairs**  
Vacant

**Student Activities Chair**  
Michael Hayashi [michael.r.hayashi@ieee.org](mailto:michael.r.hayashi@ieee.org)

**IUPUI Student Branch**  
Jonah Crespo [jgcespo@umail.iu.edu](mailto:jgcespo@umail.iu.edu)

**Indiana State Student Branch**  
Peter Berterman

**Rose - Hulman Institute of Technology Student  
Branch**  
April Riddett [riddetae@rose-hulman.edu](mailto:riddetae@rose-hulman.edu)

**Purdue University Student Branch**  
Matt Molo [mmolo@purdue.edu](mailto:mmolo@purdue.edu)

**Ball State Student Branch**  
Tucker Hale

**Editorial Policies**  
Each issue of The Reporter typically references three months - the month in which it is published and the following two months. The Reporter is typically published in March, June, September, and December.

Material to be included should be submitted mid-month prior to the month it is to be published. For example, material intended for the September issue should be submitted to the Editor by August 15. The Editor will send a reminder to all IEEE Central Indiana Section entities by the 25th of the month to submit their updates.

Copy should be submitted electronically. Photographs are desirable. Advertisements are welcome. Contact the editor for layout sizes and rates at [mcnallyh@purdue.edu](mailto:mcnallyh@purdue.edu).

## *How Do You Communicate??*

Want to know what is happening in Central Indiana Section? Don't know where to look? Already inundated with E-Notices? Need to ask a question? Want to find an expert? Got a meeting idea?

Here are some of many communication channels available in Central Indiana Section



Find the Central Indiana Engineering Consultants' Network and the Central Indiana Section Communications Society, as well as several other IEEE related organizations on LinkedIn.



Student Branch members are encouraged to join "CIS-IEEE Student Branches" group on Facebook. Several opportunities for students and student branches have been posted there. The Facebook group also provides an opportunity for CIS student members to interact or to make contact with student members outside of Central Indiana. There is no substitute for a good network, but be aware that some hiring managers are also checking these sites.

Communications Society members can find "COMSOC – Central Indiana Section" on Facebook.

### **CIS Home Pages**

Start with the main site. ([www.cis-ieee.org](http://www.cis-ieee.org)) Check out the calendar of events, or link to the many IEEE groups in Central Indiana Section, including all of the Student Branches.

### **E-Notices**

Not getting E-Notices? E-Notices are not only a resource for keeping in touch with the activities throughout CIS, but you will also receive information on topics of interest throughout IEEE

Login to myIEEE from the IEEE Home Page ([www.ieee.org](http://www.ieee.org)) and sign-up!  
Check out the calendar of events, at the main site. ([www.cis-ieee.org](http://www.cis-ieee.org))