THE REPORTER

Journal of the Central Indiana Section ● IEEE

Section Update
By David Koehler, CIS Section Chair

Our local section's goal is to engage all our members both technically and professionally. Please let us know if you have any comments or suggestions of how we can better serve the IEEE-Central Indiana Region.

Please remember that all Central Indiana IEEE members are welcome to attend our Executive Committee monthly meetings. For a current schedule of 2012 meetings please visit our website and view the details under the *IEEE vTools Meetings header*.

This year is our section's 100th anniversary. We will be providing information in the next issue of *The Reporter* regarding details of the planned celebration event. Current plans are to hold this event sometime this fall.

Our local section and IEEE Region 4 are hosting the 2012 EIT (ELECTRO/INFORMATION TECHNOLOGY) Conference at IUPUI. Dates for the conference are May 6-8, 2012. Please plan on attending, registration and conference details can be found at: http://www.eit-conference.org/eit2012/.

We will again be having our annual *Picnic with the Indians* event this August at Victory Field. We will send out event information via email to all section members. Event details will be posted on our website and in the next issue of *The Reporter*.

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Membership Development News
By Earl Hill, Chair, PES/IAS

Both the IEEE and the local Region (Region 4, which covers most of the Midwest) provide statistics on membership. Region 4 provides information for the Central Indiana Section. As it turns out, the CIS is the 4th largest section in Region 4 (after Chicago, SE Michigan, and Minneapolis). We have not done as well in increasing our membership, or in getting folks to renew their membership. If you have not done so, please renew soon, and suggest any other members you know to renew as well. If you have renewed, please forgive the e-mail we'll be sending out on renewals.

The IEEE suffers from a "youth gap" in that young people just out of college often do not move to a full membership. The IEEE is addressing this through the use of Graduates of the Last Decade (GOLD) membership, which has special privileges. At the CIS, Diana Vasquez is the GOLD Coordinator. GOLD has a series of activities designed to bring folks into the IEEE mainstream. Kindly contact Diana for more information on GOLD.

Note that the IEEE has incentive programs for bringing in new members. These are outlined on the IEEE website. Both this website and the CIS-IEEE website (Membership Development) list the many advantages of IEEE membership. Please feel free to pass this on to anyone you think would be interested in membership.

PES/IAS NEWS
By Earl Hill, Chair, PES/IAS and
Ben Huckaba, PES member

APPROVED! The CIS-IEEE Power Electronics Society (PELS) Chapter
has been approved with an official date of 27 December 2011.

The Executive Committee of the CIS-IEEE is pleased to announce the formation of the PELS Society Chapter in Central Indiana. The PELS covers the following areas:

> The field of interest of the IEEE Power Electronic's Society includes the development of power electronics technology which encompasses the effective use of electronic components, the application of circuit theory and design techniques, and the development of analytical tools toward efficient electronic conversion, control, and conditioning of electric power.

> The core technical areas of power electronics include power converter topology, modeling and control techniques, power semiconductors, passive components, motor drives, sensing and communication, and design tools.

PELS is very involved in electric vehicles, for instance. Initially, the PELS will be a joint society with PES-IAS, but will then separate into its own Chapter. For more information, contact Earl Hill (PES) eshill@loma-consulting.com or Dr. Tim Alt (PELS) (tim.alt@ieee.org), the new Society Chair. More information on meetings will be provided soon and the section website.

The PES-IAS has started another year of monthly seminars and meetings. On January 10th, the section held a meeting on Ball Lightning. Ball lightning is a natural phenomenon characterized by a glowing ball of light that lasts for 1 to more than 1000 seconds. Dr. J. Pace VanDevender of Sandia National Laboratory presented *Ball Lightning - New Physics, New Energy Source, or Just Good Entertainment?*, while Dr. Igor Alexeff of University of Tennessee (Emeritus) presented *Ball Lightning - Balls of Fire in the Laboratory*.

On February 7th, the section held a joint meeting with the Communications Society on New Developments in SCADA Communication, Protocols and Security. Mr. Ray Wright of NovaTech, LLC described how SCADA has evolved from DNP3 at 1200 or 9600 baud to include frame relay, DSL, wired and wireless Ethernet, and protocols for web pages and file transfer. Mr. Wright summarized the latest SCADA communication architectures and what utilities are doing to address new security challenges required by NERC CIP.

On March 13th, the section held a seminar on On-line Partial Discharge Detection & Localization. Mr. Brad MacDonald of NDB Technologies addressed Partial Discharge Detection as an effective on-line predictive maintenance test for a large array of electrical insulating materials for high voltage equipment: Transformers, Switchgear, Insulators, Cables and more. The benefits of on-line, testing allow for equipment insulation analysis and diagnostics during normal production. Corrective actions can be planned and implemented, resulting in reduced unexpected downtime. This presentation discussed different techniques of electrical and acoustical on-line detection and localization of partial discharge.

PES-IAS Events for the future

April 10th – we have a tour of Channel 8 on N. Meridian Street.   The television industry has a lot of cutting edge equipment – in addition Channel 8 serves as the headquarters (in terms of programming) for a number of other Midwestern TV stations. More details on the address and where to meet will be provided on the cis-ieee.org website. This will be a two-hour tour beginning at 6:30PM. Note that this is limited to 30 attendees, so please register early to be sure of getting a seat.

May 7th – we plan a series of workshops as part of the IEEE EIT Conference to be held at IUPUI. The workshops will involve a series of lectures on smart grid, and will serve as the Spring Short Course for the PES-IAS (PDH will be available). Please note that these presentations will be during the day (not in the evening, as is typically done). The full agenda for the workshops will be posted, but we hope to have speakers from Purdue, IPL, Duke, MISO and EPRI.

The May PES-IAS Spring Short Course will be part of the CIS-IEEE / Region 4
EIT Conference held at the IUPUI Convention Center on May 7th, from 8:30 am – 4:30 pm. Folks attending the EIT Conference can attend all the workshops for free. If not attending, the course is $75 for each half day. Lunch and dinner (the conference banquet) are not included, but can be purchased separately ($10 and $35).

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<u>Region 4 Meeting:</u>
By David Koehler, CIS Section Chair

This annual region meeting was recently held January 21-22 in Minneapolis, MN. Region 4 is composed of IEEE Sections in all or parts of Illinois, Indiana, Iowa, Michigan, Minnesota Nebraska, North and South Dakota, Ohio, and Wisconsin USA and Windsor Area Canada. Our section was represented by David Koehler and Stavan Dholakia.

Key topics of the meeting included the following:
* Need to develop a distinguished speaker database. This database can then be used by local IEEE Sections to hold technical and professional development meetings. If you know of anyone that should be nominated for inclusion within this database please contact David Koehler.
 * In today's difficult economic environment, please look for IEEE and our Central Indiana Section to offer more employment and career services/workshops.
* IEEE membership is up 2.1% worldwide, but is down within the United States by 1.3%.
* GOLD (Graduates Of the Last Decade) has an overall membership decline of 12.9% from 2010 to 2011.
* Please contact Earl Hill if you know of anyone interested in signing up for IEEE membership.
* http://careers.ieee.org/ is an excellent resource for those seeking employment opportunities.

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New Senior Member

The CIS-IEEE has always looked to facilitate members advancing to higher levels of membership. Congratulations to our newest senior member!

Mr. Larry Rudolf

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Announcement: EIT Conference – Indianapolis 2012

The Central Indiana Section of the IEEE is pleased to announce that the 2012 IEEE International Conference on Electro/Information will be held in Indianapolis in May 2012. The IUPUI facility is an excellent venue, and will highlight IUPUI, CIS-IEEE and the city of Indianapolis.

In the past, the conference has focused on basic/applied research results in the fields of electrical and computer engineering as they relate to IT and its applications. The purpose of the conference is to provide a forum for researchers and industrial investigators to share principles, practices, concepts, and experiences and exchange ideas and discuss developments. The interplay between academy and industry results in a better understanding of the impact of this growing field. There will be exhibits where the latest technology tools and products will be showcased. This is also an opportunity for professional development, workshops and tutorials. The CIS-IEEE is considering focusing on medical instruments and electric vehicles (both local strengths), and smart grid, but welcomes any suggestions for topics.

This conference in a major IEEE event and the CIS-IEEE is proud to have an opportunity to host it. Planning has already begun, and the CIS is looking for volunteers in a number of areas to support the conference. If you are interested, kindly consult our website, or contact Mr. Phil Walter, Phil.Walter@IEEE.org, CIS-IEEE Director, for more details.

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2012 CIS-IEEE CENTENNIAL CELEBRATION

Has it already been 100 years? Time sure goes fast when you're on the cutting edge of technology, doesn't it? CIS-IEEE is planning a year-long celebration of its centennial. All members are welcome to suggest activities, commemorations, provide historical documents, plan events, provide historical memories, etc. Any of you who are so interested please contact any of the officers of CIS. We are especially interested in Senior/Life members whose history with CIS would provide a unique resource.

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Fourth and Fifth Graders Use Teacher Grant To Design Computer Mice

Mrs. Coldren's (third grade) and Mrs. Strnat's (fourth grade) classes, from Cumberland Road Elementary School, loved reverse engineering a computer mouse. Innovations from a roller ball computer mouse included a rechargeable mouse, a speaker mouse, a voice-activated mouse, a duster mouse, a combination mouse/TV remote, and a heated mouse. The culminating project was a commercial for each new product.

CIS-IEEE Continues Teacher Grants for 2012

Teachers Reimbursed for up to $100 of Classroom Expenses

The Central Indiana Section of the IEEE (pronounced Eye-triple-E) is encouraging area teachers to utilize the large selection of free lesson plans available at TryEngineering.org. Lessons focus on Science, Technology, Engineering, and Math and are designed for classroom presentation for under $100.

Eligibility
• A lesson from www.tryengineering.org must be chosen
• The lesson must be presented by the classroom teacher. (Not by an IEEE Volunteer)

Applying for a Grant
Central Indiana Section (CIS) will reimburse costs for presentation of an eligible lesson up to the $100 limit. Teachers should first get a pre-approval for the reimbursement by supplying the information requested below. Pre-approved lessons will be given an address for submittal of related lesson expenses, up to the $100 limit.

To apply, send an email with the following information to Brad Snodgrass at bsnodgrass@ieee.org
• Name and address of the School
• Teacher sponsoring the lesson
• Grade level(s) targeted for the lesson
• Name of person who will be presenting the lesson
• Date lesson will be presented
• Name of the lesson that will be presented.

Questions
Send questions or requests to Brad Snodgrass at bsnodgrass@ieee.org. Brad coordinates Pre-University Activities for the Central Indiana Section of IEEE.

About the IEEE
The IEEE is the world's leading professional association for the advancement of technology. With more than 350,000 members worldwide, IEEE is the largest technical society in the world. The IEEE is a leading authority on a broad range of topics including aerospace systems, computers, telecommunications, robotics, nanotechnology, biomedical engineering, electric power, consumer electronics, and many others.

Central Indiana Section (CIS) of the IEEE is the local organization supporting the nearly 2000 IEEE members in central Indiana.

About the Teacher In-Service Program
The Teacher In-Service Program (TISP) features IEEE Section volunteers developing and presenting technologically oriented subject matter to local K-12 educators in an in-service or professional development setting. TISP allows IEEE volunteers to share their technical expertise and to demonstrate the application of engineering concepts to support the teaching and learning of science, mathematics and technology disciplines.

To schedule a TISP Presentation for your school, contact Brad Snodgrass at bsnodgrass@ieee.org.

IEEE Resources for Students and Teachers
http://www.cis-ieee.org/
http://www.ieee.org/web/aboutus/home/index.html
http://www.ieee.org/web/education/home/index.html
http://www.ieee.org/web/education/preuniversity/tispt/index.html

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 and 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) Check out the calendar of events, or link to the many IEEE groups in Central Indiana Section, including all of the Student Branches.

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

E-Notices

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

Central Indiana Section Announces
K-12 Educational Outreach Mailing List

Want to keep abreast of all the educational activities in Central Indiana? Need help with or an idea for a project? Want to share ideas with educators, administrators, and engineers? You need to join the CIS K-12 Outreach Mailing List.

You need not be an IEEE member to join the list. In fact, we would like to have as many educators and administrators as possible on the list.

The only requirement is an interest in improving technological literacy in Central Indiana.

To join, send an email message to LISTSERV@LISTSERV.IEEE.ORG with the following in the **body** of the message SUBSCRIBE CIS-K12-OUTREACH <full name>. (Example: SUBSCRIBE CIS-K12-OUTREACH Brad Snodgrass) Your email needs to originate from the email address at which you wish to receive messages.

For more information, you can contact Brad Snodgrass at bsnodgrass@ieee.org.

See you there.

2012 Meeting Calendar			
Date	**Host**	**Subject**	**Location**
Thursday, April 19, 6:00 pm	CIS	**Executive Committee Meeting**	ET201S, IUPUI Internet/Phone Bridge
May 6-8, 2012	CIS	**EIT 2012 Conference**	IUPUI Conference Center
... Check the Section web page for details and current information. ▱▱▱.			

ADVERTISER EVENT

April 17-19, 2012	DLS www.dlsemc.com/1001	EMC by Your Design Seminar	Hilton Hotel, Northbrook, IL

Central Indiana Section Active Volunteers

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Constitution and Bylaws
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David Love   djlove@purdue.edu

Engineering in Medicine and Biology Society
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                                    jakechen@iupui.edu

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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 15th 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.

Central Indiana Engineering Web Links

ACEC	American Council of Engineering Companies, Indiana	acecindiana.org
ASCE	American Society of Civil Engineers	inasce.org
ASME	American Society of Mechanical Engineers	sections.asme.org/central_indiana
ASM-INDY	American Society for Metals - Indianapolis	asm-indy.org
CIECN	Central Indiana Engineering Consultants' Network	indy-engineer.dnsalias.com
CINLUG	Central Indiana Linux Users Group	cinlug.org
IBEN	Indiana Biomedical Entrepreneur Network	indianabionetwork.org
ICES	Indiana Council of Engineering Societies	in-ces.org
IHIF	Indiana Health Industry Forum	ihif.org
INCOSE	International Council on Systems Engineering	incose-coa.org
INDSPE	Indiana Society of Professional Engineers	indspe.org
INDYASHRAE	American Society of Heating, Refrigeration, and Air Conditioning Engineers	indyashrae.org
NSBE-IAE	National Society of Black Engineers - Indianapolis Alumni Extension	nsbe-iae.org
PIMCIC	Project Management Institute - Central Indiana Chapter	pmicic.org
SAE	Society of Automotive Engineers, Indianapolis	indianasae.org
Scientech	Scientech Club in Indianapolis	scientechclub.org
SIM	Indianapolis Chapter of Society for Information Management (SIM)	SimNet.org
SWE-CI	Society of Women Engineers - Central Indiana Section	swe-ci.com
Techpoint	A diverse collection of technology-based Indiana industries.	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.

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Public Service Announcement

The reader may be interested in the following link which describes a PhD candidate at Columbia University Ang Cui) and his work on the vulnerability of network printers to "malware". His work caused HP to announce firmware updates for many of their network printers.
http://ids.cs.columbia.edu/sites/default/files/CuiPrintMeIfYouDare.pdf