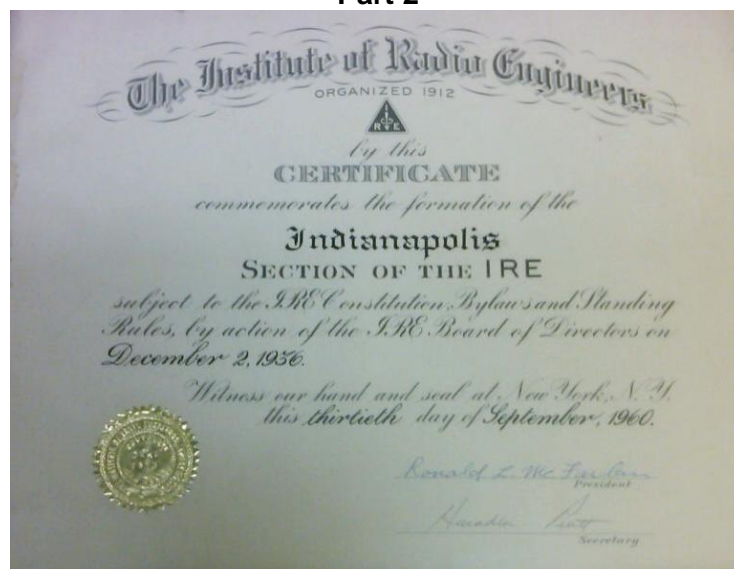


THE REPORTER

Journal of the Central Indiana Section • IEEE

2012 CIS-IEEE CENTENNIAL CELEBRATION!

Part 2



A REQUEST FOR YOUR POINT OF VIEW AND FOR CIS-IEEE HISTORICAL INFORMATION

As mentioned in the last newsletter, we are looking for history of the section. We have many stories in the history documentation written in the 1980s by George Fraser with the assistance of many others, and we are reproducing that history here. However, we are short of interesting and insightful tales of the section events and member and officer activities, especially in more recent years. We are asking all members, officers and especially life members to share their stories for publication in the next issue of the CIS-IEEE Reporter. Please share your experiences with us!

Also, we have a few gaps in our history. We are missing the names of the following persons: The chairs of the

- 1.) AIEE in 1947-48,
- 2.) IRE in 1957-58, and
- 3.) all officers of the CIS-IEEE in 1968-69.

And we are also missing some issues of THE REPORTER in our IEEE archives and have duplicate copies of other issues if anyone is interested. If you have any of the above and are willing to share, please contact Marvin Needler, Historian, (mnpn@juno.com), 6649 E. 65th St, Indianapolis IN 46220 and/or Helen McNally, Editor (mcnallyh@purdue.edu) 401 North Grant St. West Lafayette, IN 47907 by November 1, 2012.

CENTRAL INDIANA SECTION
of the
INSTITUTE OF ELECTRICAL and ELECTRONIC ENGINEERS
A HISTORY
By George R. Fraser
Volume B*

Part IV

Chairman David A. Diehl with G.G. Jensen as Vice-Chairman and James L. Jerrell as Secretary-Treasurer were our IEEE officers for the year 1969-70. Program planning for the year got off to a rough start when two tours planned for section meetings had to be cancelled or drastically modified due to changes in plant policy.

The first program of the year was held at the Beefeaters Restaurant on East Washington Street with a very good turnout. The speaker was Mr. Tom L. Powers of Bell Laboratories in Indianapolis. He only recently had arrived in Indianapolis and had previously been with Apollo program which had been successfully completed with a manned landing on the moon. Several excellent tours were included in the remainder of the year's programs, including the Otis Elevator Co. for October in Bloomington; and the Ford Motor Company, Indianapolis; Transmission and Chassis Division in November. Ladies Night in January was a tour of the Indiana University Medical Center. (For those participating this was a long-to-be-remembered tour due to an extremely cold evening and the outside walks between warm buildings.) The March meeting, sponsored by the Power Group, was a tour of the Greentown Power Substation nine miles east of Kokomo followed by a great dinner (Steak, \$4.50) and section meeting with remarks by Director Region 4, Mr. Harry P. Brunke. The May meeting was a tour through Duncan Electric in Lafayette with particular emphasis on the computerized calibration laboratory. The student meeting in April was held at Purdue University and presented by the Purdue students.

The Color Television course was continued with an offering of Color Television II with six-two hour sessions. This again utilized RCA instructors and proved again to be a popular course.

Dr. Benjamin J. Leon of Purdue University was presented with the Fellow Award in January for his contributions to Circuit Theory and Engineering Education.

In the May, 1971, issue of *The Reporter* a message from the Program Planning Committee Chairman, Ronald Jennings, signed by the four members of his committee, comments, "In the wake of changing national priorities and a general economic slowdown, the electrical-electronics profession is being confronted with many problems and challenges." This comment is only the first sentence of an excellent presentation concerning the differences in our profession between the past and the present, and the prospects for the future. This brief quotation also represented the problems faced by our new offices for the year. James L. Jerrell was our chairman, Len Krugman was vice chairman and Robert W. Prater was secretary/treasurer. It was to be a grueling year with many decisions required, not only for the present but the future. There were the usual problems of how to finance *The Reporter*, how to find programs that would get engineers out and how best to obtain more workers to help. Those and many other problems were faced, and the challenges met.

Part V

Dr. King Sun Fu from Purdue University received his Fellow Award during the February meeting, 1971.

A stand-out meeting and field trip on May 7, 1971, should bring back memories to those who attended. It is believed that this meeting was the only meeting of the section held outside the State of Indiana. Considering the time and distance, the attendance was excellent. This meeting was held on a Friday, further making it unusual. The meeting was a trip to the University of Illinois Vermillion River Observatory with a tour and lecture presented by Dr. G.W. Swenson, Jr. Between the tour and lecture, dinner was held at the Redwood Inn located at the Danville, Illinois, airport. Great economic ingenuity and practical mechanical knowledge has been utilized in the building and operation of the two radio-telescopes installed. One was a 120 ft. dish telescope and the other was a 400' x 600' parabolic antenna with a focal length of 153 feet. It was a very interesting and educational tour with a very capable and well qualified speaker.

In 1971 Ron Whitaker, a past chairman of the IRE, became Historian of the Central Indiana Section of the IEEE. Ron, a very dedicated engineer, was employed by the Detroit Diesel Allison Division of the General Motors Corporation. From September of 1971 to July of 1974 the historical record of our section was maintained in a precise and dedicated manner. It was essentially from this period that past records were brought together and a permanent record of our history established. During each of the years that Ron was the Historian, a separate section regarding the history of the section for that particular year was prepared and bound with the copies of *The Reporter* for that year. These are available for review in the file of the Section Historian.

In 1971 W.R. Isom was elected Chairman of the Central Indiana Section of IEEE and the outstanding leadership of one of our finest engineers in the section soon became apparent. Mr. Isom or Rex, as he preferred, had replaced H.E. (Ed) Roys at RCA Records when Mr. Roys retired. Serving with Mr. Isom for the year were R.M. Richert of Bell Laboratory as Vice-Chairman and Bryce D. Drake of Western Electric as Secretary-Treasurer. Rex Isom was a leader who believed in getting people involved and through his efforts and friendly leadership the Executive Committee became a well-rounded management team or Board of Directors of our section. From this committee came many of our chairmen and leaders for the years to follow. Those serving with the officers were Charles Ohlman, S.W. Shields, F.J. Friedlaender, C.W. Mitchell, R.O. Whitaker, Don Hendrickson, L.M. Krugman, Frank Burley, David Diehl, Robert K.

Brown, E.A. Hildebrand, Rodney Katz, Ron Cruthers, Paul Reising and Richard H. Turpin.

Programs for the 1971-72 year were varied and mostly technical. Satellites, efficient recycling of trash to create raw material; futuristic styling of home entertainment centers and pay TV were the topics of the technical programs. Tours of new developments at the IUPUI Medical Center and part of the Public Service Indiana, Plainfield were both interesting and educational. At the Medical Center an artificial kidney in operation was the highlight and in Plainfield demonstrations of the use of lead-acid batteries in various small vehicles and tools were demonstrated and discussed. A matter of increasing interest to engineers became the topic for a panel discussion for the November meeting. The conclusion of the historian attending the meeting was that, "Engineers may be very adept at analyzing technical problems falling within their field of training but they have great difficulty at coming to grips with social questions outside their technical field."

The officers for 1972-73 year were Ronald F. Cruthers of the Naval Avionics Facility as Chairman, Dr. Clair D. McGillem of Purdue University as Vice-Chairman and Leonard M. Krugman of RCA Consumer Electronics as Secretary-Treasurer. Dave Diehl of Western Electric and S.W. (Bill) Shields served as Directors in another outstanding Executive Committee.

The programs for the 1972-73 year were well rounded and outstanding, presenting something new and different from our own employment. They created interest and generated the comradeship so essential to our organization. A tour of the new Indianapolis Post Office started the year off. In October a joint meeting was held with the American Institute of Aeronautics and Astronautics with Mr. Norm Driscoll, an experimental pilot with Vought Aeronautics, as an outstanding speaker. He carefully tied together the multitude of engineering projects, many from Indiana, and made everyone realize how important one small effort can be in the development of a complete aircraft weapons system. November saw a second tour of the year with a tour of the Delco Semi-Conductor plant in Kokomo. Ladies and awards night were in January at the Columbia Club with Fellow awards going to Barton Kreuger of RCA and Professors Hughes and El Abiad of Purdue. The awards presentation was followed by a demonstration of a newly developed electronic organ using computer techniques. In February, Mr. Frank J. Kabat of the Phillips Company presented a fine technical discussion of an instrumentation of our atmosphere to find and measure air pollution. March brought another good technical meeting with Mr. Joseph Kenny of the Westinghouse Corporation discussing Fast Breeder Reactors. The April meeting was held in Terre Haute at Rose-Hulman Institute of Technology where Mr. Rex Nadar of Texas Instruments presented a program on digital electronic devices and computers. In May the program was by General Aviation Electronics, Inc. of Indianapolis. This program provided an outstanding example of what a small local company can accomplish with results that affect the entire private aviation field. The year was completed with the June meeting and a technical presentation by Joseph Wells of RCA discussing and presenting a demonstration of quadrophonic sound.

In 1973-74 Leonard M. Krugman of RCA Consumer Electronics was elected Chairman with Lloyd Riggs of Westinghouse Electric, Bloomington as Vice-Chairman. Harry Bostic of the Naval Avionics Facility was Secretary-Treasurer. Dave Diehl and Rex Isom were Directors. This again proved to be an outstanding Executive Committee.

Starting in September of 1971 Executive Committee meetings were held in the conference room of RCA Records. The Committee always felt welcome and at home in this conference room and many times they were rewarded when records, no longer on the bestselling lists, were made available for those attending to make a selection of their choice from records that covered the music spectrum.

In the year 1973-74 programs consisted of three tours, two technical presentations, two presentations relating to our profession, '500' meeting and an annual Ladies and Awards nights. Tours were of the LARS laboratory (Laboratory for Applications of Remote Sensing) in the Purdue Research Park, West Lafayette, with a presentation by Dr. David Landgrebe and Mr. Terry Phillips, the Stout plant of Indianapolis Power and Light and a tour of the Weir-Cook Airport. Technical presentations were made by Mr. Earl W. Meyer of Chrysler speaking on 'Electronics in Automobiles' and by Mr. Richard E. Peterson with a presentation on "Future Bell Communications Systems." The programs related to our profession were given by Tucker P. Madawich, Vice President of Industrial Design for RCA, speaking on "Designing the Products Which the Public Will Buy Tomorrow." The second program was by John Kinn, Director Educational Services of IEEE speaking on new benefits that IEEE is seeking for its members as a class. During the May meeting at the Speedway, Bobby Unser was our speaker and source of information. He was described by our Historian as truly professional from outside our electrical circle, dedicated to his work, a credit to his profession and a credit to America. Ladies and Awards night saw the presentation of the 'Fellow' award to Dr. C.L. Castes, Head of the School of Electrical Engineering at Purdue. The evening was concluded with a presentation by RCA on Selectavision.

Part VI

This portion of our history will be direct quotes as made by our Historian, Ronald O. Whitaker, following each of the three years he served as Historian.

"The year of 1971- 72 saw the close of one era and the opening of a new. The military orientation of our profession faded. We turned to the creation of an all new civilization with futuristic transportation, a pollutionless environment, communication by sight and sound the world around, lasers, cryogenic power transmission, electric heating, electric cooling, and computerized living. From fashioning the weapons of destruction we have full turned to providing the means for construction- construction of an electrical world of the future. The dislocations associated with our former activities have changed to relocations associated with our new employments. The closing of one era. The opening of a new."

"Under the inspiring leadership of our Chairman, Rex Isom of RCA, the Section has enjoyed a banner year. Each and every technical meeting was well attended. Subject material was always of interest to the membership. Professional comradeship for our membership was provided by the social hours and dinners preceding our technical meetings and through the continued publication of *The Reporter*. For contributions to the advance of our technology the Fellowship was awarded Dean Hancock of Purdue University. The year marked a technological first for the Section-- in conjunction with IUPUI, a lecture series on linear integrated circuits was presented live in Indianapolis and *via* television in several nearby cities."

"A newsletter or other periodic publication does much to bind together the membership of a society. Publications such as our *Reporter* are costly. But the fellowship engendered by *The Reporter* has always been considered sufficient to justify the expense. The

struggle to finance *The Reporter* through the years has been difficult. But a way has always been found. The Section takes considerable pride in the fact that it is the only professional organization in this area to have such a printed publication."

"The technical year of 1972-1973 opened with the presidential election and closed with the Watergate scandal-its midpart brought the end of the Viet Nam war and the return of the POW's. It was a highly prosperous year with more cars, more houses, more air conditioners-more of everything than ever before. Our people waxing in all this opulence have cared little if any for historical events of the year. Perhaps this year has marked the zenith of our civilization. Our population is beginning to decline. Not for natural cause, but for lack of will of the people to curtail opulence in order to provide a succeeding generation."

"Such is the background over which the Central Indiana Section of the IEEE spread the activities of what proved to be its most successful year."

"This was the year of the crossroads. Should the IEEE continue as an organization whose sole purpose and interest should be to promote technological growth in the electrical field and fellowship amongst those working in the field-or should it become a labor union type organization similar to the AMA and ABA and use muscle to gain for its adherents a proportion of the gross national product in excess of what can be earned in a free market? Pressures upon the national organization of the IEEE have moved it in the direction of the union."

"But in our local section the year saw strict adherence to the time honored purpose. Our meetings were all technical in nature. An Educational Committee was part of our Executive Committee. It sponsored a technical course to extend the technical abilities of our members. There was no committee attempting to fix salaries or limit the number of persons entering our profession."

"And it was a banner year. With excellent meetings following hard upon each other's heels. With three of our members receiving Fellowship awards. With Rex Isom emerging triumphant at our last meeting with his quadrophonic sound. With Harry Bostic doing a superb job as Program Chairman. With Rob Katz editing a *Reporter* which stands as the best section publication in the nation. And with Ron Cruthers as Section Chairman leading us smoothly through the year."

For the year 1974-1975 the Section had elected, from Purdue University, Professor Clare D. McGillem as Chairman, Harry D. Bostic of the Naval Avionics Facility as Vice Chairman, Robert K. Brown of Public Service Indiana as Secretary and John W. Boyer of Western Electric as Treasurer. This group of elected officers, along with Ken Barr as Managing Editor, and Pat Jerrell as Editor of *The Reporter* soon proved the confidence placed in them by the members. It was to be another good year with good meetings, good seminars, and people working together for the benefit of all.

Dr. McGillem in his opening remarks in *The Reporter*, as Chairman, stated, "Congratulations are certainly in order for Ken Krugman and his staff who did such an outstanding job in the management and operation of the Central Indiana Section for the year just completed. The past year has been another in a long standing sequence in which progress has been steadily upward and the Section has steadily improved." Dr. McGillem then proceeded to continue the sequence.

Both the Power Engineering Society and the Bloomington Sub-Section got off to a good start with complete schedules for seven meetings each with time, date, place and the topic for the meeting.

Along with the annual May meeting at the Speedway, a tour of Westinghouse-Bloomington proved to be the most popular for the year. Another tour that proved popular and educational was a tour of Delco-Remy in Anderson.

Considering the distance to Anderson an attendance of 49 was considered excellent. Those making the trip were not only rewarded with an educational tour but had an opportunity to meet and talk with some of our members that all too often we have not had the opportunity of meeting. Although many drove to this meeting, the delegation from West Lafayette arrived in style on a flight from Purdue Airport, thanks to an offer made by Professor Hannis Thompson to fly the group to Anderson. Thanks also had to go to Anderson members for providing ground transportation at Anderson.

Other meetings during the year included Police Communication, Home Security Systems, Medical and Dental School Modern Instructional Media, the Engineer and Engineering in the Real World at Rose-Hulman in Terre Haute, Electric Power Research and a meeting on Programmable Calculators.

The Engineering Management Group was also active with one of their programs featuring Captain E.G. Buck USN (Ret) who at the time was serving as Director of Industrial Liaison for the Indianapolis Center for Advanced Research (ICFAR).

One of the major administrative projects for the year included a study and complete rewrite of the By-Laws of the Section. These were adopted in June of 1975.

In 1975 an experienced group of officers were elected for the 1975-1976 years. These were, as Chairman, Harry D. Bostic; as Vice-Chairman, Robert K. Brown; as Secretary, John W. Boyer; and as Treasurer, Gerald D. Waltz.

Ken Barr continued as Managing Editor of *The Reporter* with Pat Jerrell as Editor.

Again the May meeting at Speedway proved to be the most popular meeting of the year. Roger McCluskey, a very popular driver, was our speaker. The attendance reported was 115 members with 61 guests for a total meeting attendance of 176. The second most popular meeting of the year was in February when our popular and respected Past Chairman, Rex Isom, presented for our 'Honors, Awards and Ladies Night' a program on the 'History of Recording'.

Tours for the year included Essex International, Power Conductor Division in Lafayette, Micro Electronics Failure Analysis Labs at the Crane Naval Weapons Center and the Air Traffic Control Center, Indianapolis.

Lecture programs included meetings on 'Ultra Sound in Medical Applications', 'World's Energy Sources and their Reserves', 'Magnetic Materials', 'Holography' and a panel discussion on 'Utility Notes and Regulations'.

In May, Chairman, Harry Bostic, called for a Planning Meeting to be held on May 20 and asked for designated representation of the following activities to attend: the Section, the Bloomington Sub-Section and from the active chapter, the Power Engineering Society, Engineering Management Society, Circuits and Systems Society, Computer Society and Engineering in Medicine and Biology Group.

The June issue of *The Reporter* contained a particularly important comment on the times with an Editorial entitled, "Ethics and the Electrical Engineer" written by John McNett, Chairman, Professional Activities Committee stressing the importance of a high standard of ethical conduct necessary for an engineer.

On July 21, 1976 the first show to be presented by the Central Indiana Section of the IEEE. was held. One hundred twelve members

and 548 guests attended. This 'no charge' show offered 24 exhibits and was held at The Holiday Inn, 21st and Shadeland. There could be no question-the show was a success.

For 1976-1977 another outstanding group of officers had been elected. They were Chairman, Robert K. Brown from Public Service Indiana; Vice Chairman, John W. Boyer from Western Electric; Gerald D. Waltz as Secretary from IPALCO and for Treasurer, Rodney S. Katz from the Naval Avionics Facility. *The Reporter* was under the very able management of Ken Barr from RCA and Harry Bostic from the Naval Avionics Facility.

The two programs that had the greatest attendance were both held at the same location-the Indianapolis Motor Speedway Motel. The first of these was the Annual Awards and Ladies Night with Dr. Leslie A. Geddes of Purdue University speaking on "The Measurement of Blood Pressure." This was a joint meeting with our Engineering in Medicine and Biology group. In May the annual trip to the track brought out 114 members and 52 guests. This also was a joint meeting, this time with the Institute of Environmental Sciences. Again we were permitted, for a few minutes, to become a driver on the most famous track in the world, although at a very reduced speed and well regimented. Following the drive and prior to the meeting, we were again permitted to visit 'Gasoline Alley'. Lloyd Ruby, a well-known and popular driver, was our speaker for the evening.

That our May meeting be held at the 'track' is by now traditional. Certainly this particular meeting, year after year, brings out more members than any meeting of the year. This is often a joint meeting shared with another professional group, the result being an opportunity to meet new friends and gain new knowledge. Our opportunities are unlimited as we walk in Gasoline Alley and see these miracle machines in all states of assembly and repair. The drive on the track, when permitted, even at forty miles an hour is simply awe-inspiring. The evening's program has varied from a movie of the previous year's race with commentary by a driver of that race to very learned talk by well-dressed driver-engineers. I am certain this will continue to be a very popular program for as long as race cars can be driven at the 'track'.

The first program of the year was on Radio Controlled Modeling held at the Beacon Restaurant. During this program several of our members and their friends talked about and demonstrated radio controlled models of boats, a helicopter and plans of many sizes and shapes. It was a very interesting program showing how many engineers combine the knowledge of their work with a hobby.

Three other tours were presented during the year all with excellent turnouts and all very educational. There was a tour of the Indianapolis Museum of Transportation and Communication at Forest Park, Noblesville; Chrysler Plant Tour at 30th and Shadeland and a tour of the Indianapolis Police-and Fire Communications Center.

Other section meetings held were programs, as follows: Indianapolis Police Department Crime Laboratory, Dr. David L. Slotnick speaking on 'Current Frontiers in Digital Electronics Technology' and Dr. Samuel F. Hulbert, President of Rose-Hulman, speaking on 'Material Shortages of the Late 70's'.

The Microcomputer Show in only its second year utilized 5,000 square feet of show space at the Holiday Inn 21st and Shadeland to present 'Expo 77'. Early registration found 660 registering but over 750 showed up to attend the show, again a big success.

In Terre Haute planning was underway for a new student chapter at Indiana State University but unfortunately these plans were not successful and no new chapter was developed.

The year was started in September with a cash balance of \$9,048.83 and 1,129 members in the Central Indiana Section.

Plans over the year resulted in many seminars and training courses. The Professional Activities Committee, under John McNett, sponsored an all-day seminar on 'Opportunities, Options and Obligations' on November 13. This program had many excellent speakers from various professions, who came from all over the United States. Paid attendance was 18 with a total attendance of 24. The attendance figure caused Chairman Bob Brown to comment in the January issue of *The Reporter* that, "Surely in a Section which numbers over 1,200 members, 100 could have found time to attend the seminar." A 'Micro Computer Course with Workshop' was presented later in the year via TV to 13 locations and 6 workshops. Over 10,000 brochures were mailed advertising this course. This particular course resulted in a net income to the Section of \$2,300.43. The Power Engineering Society presented two short courses during the year. The first was very timely and one that many more should have attended. It was to provide members with an authoritative source of information about nuclear power plants. The P.E.S. further stated that, "this type of activity should be of significant value if nuclear power plants become a major political issue in Indiana."

In June Jerry Heydt, Purdue Student Chapter Advisor, reported on student activities and commented, "A massive membership drive is planned for September. The objective is to enroll everyone and his brother and sister in IEEE. The Purdue Chapter is the largest student chapter in the world."

This year marked the first active participation in affairs of the Section by some of the ladies. We hope they will continue to serve their profession and grow with the section. I wonder who she will be and when our Section will elect its first lady chairman!

To be continued.
George R. Fraser
AIEE S'36
IRE M'48-SM'56
IEEE LS'83

*This portion of the history appeared in THE REPORTER in January, February, and March, 1985. The first portion of the history was republished in the June 2012 edition of THE REPORTER and originally appeared in THE REPORTER in September, October, and November, 1984. These reprints were excerpted and slightly edited by Marvin Needler, CIS-IEEE Historian.

New Senior Member

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

Xiaojun Lin
Peter Schubert
Kenichi Yoshida

Central Indiana Section
November Technical Workshop

The Central Indiana Section IEEE, along with Region 4, will be sponsoring a one day technical workshop on Saturday November 10th. The purpose of the workshop is to offer IEEE members and non-members an opportunity to gain knowledge in the fields of computers, communications, power electronics, and signal processing. PDHs will be available for attendees. Additional information for the one day event can be found at: <http://www.cis-ieee.org/event.asp?eid=127>

Location:

Indianapolis Marriott East
 7202 East 21st Street
 Indianapolis, IN.

Contact: David.Koehler@ieee.org

Saturday November 10th 8:00am-5:00pm. All food and drink will be provided to attendees.

Cost for the event is:

Registration Type	Before 11/5/2012	After 11/5/2012
IEEE Life Member	\$25	\$40
IEEE Member	\$40	\$55
Non-IEEE Member	\$70	\$85
Student IEEE Member	\$25	\$40
Student Non-IEEE Member	\$35	\$50

Computer Society:

Speaker: Hector Escobar II, CTO of FitzMark

Topic: Agile software development in an evolving business environment.

Speaker: Dr. Gerhard Klimeck, Electrical and Computer Engineering, Purdue University

Topic: Nanohub.org, an online virtualization tool supporting experiments in nanotechnology.

Power Electronics Society:

Speaker: Dr. Maryam Saeedifard, Electrical and Computer Engineering, Purdue University

Topic Area: Hybrid Electric Vehicles

Speaker: Dr. Philip Krein, Electrical and Computer Engineering, University of Illinois (Urbana-Champaign)

Topic Area: Power Electronics in Renewable Energy Applications

Presentation Title: Achieving cost parity solar energy with high reliability power electronics

Communications Society:

Speaker: Dr. Gongjun Yan, Assistant Professor at Indiana University

Title: Security Challenges in Vehicular Cloud Communication

Abstract: In a series of recent papers, Professor Olariu and his co-workers have promoted the vision of Vehicular Clouds (VCs), a non-trivial extension, along several dimensions, of conventional cloud computing. In a VC, the under-utilized vehicular resources including computing power, storage and Internet connectivity can be shared between drivers or rented out over the Internet to various customers.

Speaker: Dr. Jianjian Song, Rose-Hulman Institute of Technology
 Topic: Ubiquitous Differential-Serial Digital Communications

Speaker: Jianjian Song, Electrical and Computer Engineering, Rose-Hulman Institute of Technology
 Abstract: Serial digital communication is to send data one bit at a time through two wires, i.e., a pair of wires. Both single-end and differential signaling methods are used to transmit one bit information electronically. Differential signaling is to use the current or voltage differential on a pair of wires to transmit information. Differential-serial communication is the most popular method of new serial communication protocols for both system level communications such as USB and Zigbee, or chip level communication such as CAN. Advances in integrated circuit and printed circuit technologies have made differential serial communications inexpensive. This talk will demonstrate a number of modern serial communication schemes such as CAN, USB, I2C.

Signal Processing Society:

Speaker: Edward J. Delp, Electrical and Computer Engineering, Purdue University
 Title: "Hey!! What's That in Your Pocket?
 The Mobile Device: Past, Present, and Future"

Speaker: Prof. Mimi Boutin, Electrical and Computer Engineering, Purdue University
 Title: Low-computation shape descriptors for smart phone applications.

Power & Energy / Industrial Applications Society October Transformer Short Course

The Central Indiana Section of the PES / IAS is hosting a full set of technical presentations focusing on: transformer design and function, design considerations for specifying and locating transformers, factory inspections, installing and commissioning, transformer history and maintenance files, condition monitoring, physical inspection, online monitoring, offline testing, life assessment study, internal inspection, contingency planning, failure investigation, electrical testing of transformers, and oil testing of transformers.

Dates & Presenters

Tuesday, October 9, 2012, Dr. Niusha Rostamkolai, Professor of Electrical and Computer Engineering, Rose-Hulman Institute of Technology, addressing transformer design and functionality.

Tuesday, October 16, 2012, Larry Rudolf of Indianapolis Power & Light, addressing transformer asset management.

Tuesday, October 23, 2012, Rick Youngblood of Doble Engineering, addressing transformer electrical testing and maintenance.

Tuesday, October 30, 2012, David Koehler of Doble Engineering, addressing interpreting analytical test results on transformer insulating fluids.

Time

Each meeting will have networking from 6:00 - 6:30 PM, with the technical presentation from 6:30 - 8:30 PM.

Location

Indianapolis Power & Light, Safety Room
 1230 W. Morris St.
 Indianapolis, IN 46204

Cost

Each session is free of charge, but advanced registration is requested at www.cis-ieee.org

Power Electronics Society News

by: Tim Alt, PELS Chair

The PELS held an organizational meeting on June 14th. The members in attendance had a discussion about future topics of interest and frequency of meetings. The discussion was followed by an excellent and informative presentation on Power Electronics for Transportation presented by IEEE Fellow, Dr. Kaushik (Raja) Rajashekara. PELS will sponsor two presentations at the Region 4 Seminar held on November 10th. Professor Philip Krein from the University of Illinois will give a presentation entitled "Achieving Cost Parity Solar Energy with High Reliability Power Electronics." Also, Professor Maryam Saeedifard from Purdue University will be giving a presentation on Power Electronics for HEV. Planning for 2013 meetings is underway, if you have any suggestions please contact Tim Alt (tim.alt@ieee.org).

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www.dlsemc.com/emcdesignseminar

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) 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) and sign-up! with the main site. (www.cis-ieee.org) Check out the calendar of events,

Job Opportunities



Crosspoint Solutions, LLC is a wholly owned subsidiary of Cummins Crosspoint, LLC. EOE Cummins Crosspoint, LLC participates in E-Verify
Indianapolis, IN

SENIOR POWER ELECTRONICS ENGINEER

A full-time Senior Power Electronics Engineer is needed to work in the Indianapolis, Indiana facility of Crosspoint Solutions, LLC a leading edge innovator and manufacturer of a battery powered APU. Reporting to the Engineering Manager, the successful candidate will lead the design and development of programs, systems and methodologies to deliver quality, cost-effective power conversion, control and embedded products or systems.

SKILLS/REQUIREMENTS: Bachelor's degree in Electronics, Electrical, or Process Engineering or equivalent required. Minimum of 8-years of experience in power electronics design is required. The successful candidate will possess extensive knowledge of complex system design and architecture and analog, digital, and power electronics design. This position also requires extensive knowledge of EMI reduction design techniques. Knowledge of magnetic and generator design is required. Successful candidates must possess strong analytical, communication, computer, problem solving, planning, customer and design/simulation tools skills.

QUALITY & MANUFACTURING ENGINEER

A full-time Quality & Manufacturing Engineer is needed to work in the Indianapolis, Indiana facility of Crosspoint Solutions, LLC a leading edge innovator and manufacturer of a battery powered APU. Reporting to the Manufacturing Manager the successful candidate will implement and coordinate manufacturing, introduction of new products and product changes.

SKILLS/REQUIREMENTS: Bachelor's degree in Electrical Engineering Technology (EET) with 5 years of experience in electronics and quality is preferred. Experience in new product manufacturing and/or start-up desired. Experience with final manufacturing assembly and test processes for electronic based products preferred. Must possess experience in vendor piece-parts manufacturing. Successful candidates must possess strong analytical, communication, computer, problem solving, and planning and customer skills.

Applicants should apply online:

<https://re12.ultipro.com/CUM1007/JobBoard/ListJobs.aspx?VT=ExtCan>

For information about benefits, see:

<http://www.crosspoint.cummins.com/careers/benefits.html>

2012 Meeting Calendar

Date	Host	Subject	Location
Thursday, Sept 20, 6:00 pm	CIS	Executive Committee Meeting	ET201S, IUPUI Internet/Phone Bridge
Thursday, Oct 18, 6:00 pm	CIS	Executive Committee Meeting	ET201S, IUPUI Internet/Phone Bridge
Thursday, Nov 15, 6:00 pm	CIS	Executive Committee Meeting	ET201S, IUPUI Internet/Phone Bridge

... Check the [Section web page](#) for details and current information.   .

ADVERTISER EVENT

October 23-25, 2012	DLS www.dlsemc.com/1001	EMC by Your Design Seminar	Hilton Hotel, Northbrook, IL
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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
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
Sciencetech	Sciencetech 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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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.