

# THE REPORTER

Journal of the Central-Indiana Section • IEEE

## CIS-IEEE GOLD (Graduates Of the Last Decade) & IUPUI-IEEE Student Branch Networking Event

by Arun Kumar - GOLD Chair

For the first time in Central Indiana IEEE section history a joint networking event between the GOLD Affinity Group and the IUPUI Student Branch was held on March 31<sup>st</sup> at the IUPUI Campus Center. The goals of the event were to provide a venue for young professionals and students to interact with one another and hopefully start a lasting mutually beneficial mentoring process and also help young professionals in the section to interact with one another. Young professionals from Cummins, Emergency Radio Services, Inc. & Broadwave Technologies, Inc. were present to interact with the many student members who were ebullient and eager to know not only about life after college but also on decisions taken during college that will help them choose future career paths. Professor Yaobin Chen, the ECE Department Chair at IUPUI was also present and shared some interesting stories and provided some keen insights. The event was initially scheduled for an hour but went over two hours as the roundtable discussion simmered with experiences, advice, and insights. At the end of the event, all watched "The Benefits of Mentoring" video via IEEE TV. The students and professionals expressed an interest in having similar events in the future. Overall, the novel event proved to be very successful and GOLD is planning on continuing to hold similar events, which are beneficial to both young professionals and soon-to-be professionals, in the future.

Graduates of the Last Decade (GOLD) is a program developed to help student members transition to young professionals. GOLD offers programs and services to graduating students, recent graduates and young engineers. After you have graduated with your first professional degree, IEEE will identify you as an IEEE GOLD member. This is an automatic process. The IEEE GOLD identifier covers a 10-year period from this first graduation. The many benefits of the IEEE GOLD program include, but are not limited to:

- IEEE technology and information
- Online research & career resources
- Online job search
- Online seminars
- Professional networking opportunities
- Peer connection
- Local social activities
- Leadership opportunities

Join us on Facebook @ <http://www.facebook.com/group.php?gid=105680489462935>



CIS - GOLD/IUPUI Student Branch Meeting March 31, 2010



## FIRST Robotics Teams Claim Coveted \$500 Sponsorships in Annual Essay Contest



by Brad Snodgrass

Three local FRC Teams have claimed \$500 Sponsorships in Central Indiana Section's Annual Essay Contest. This year's contest saw a record eleven entries competing for the three sponsorships

The FIRST Robotics Competition (FRC) challenges high school students to build a competitive robot during a six-week build season using a standard "kit of parts" and a common set of rules. The teams and robots then compete in games designed by Dean Kamen, Dr. Woodie Flowers, and a committee of engineers and other professionals.

(<http://www.usfirst.org>). FIRST Robotics Competition (FRC) is a unique varsity sport of the mind designed to help high-school-aged young people discover how interesting and rewarding the life of engineers and researchers can be.

This year's essay contest challenged teams to interview one of their engineering mentors to find out why that person chose the field of engineering.

### The Winners

**Team 292, Western High School, PantherTech.** An essay written by Rachel Wilson, a senior at Western High School, describes "Engineer Extraordinaire" Kevin Keller, who continues to mentor after his children have all graduated high school.

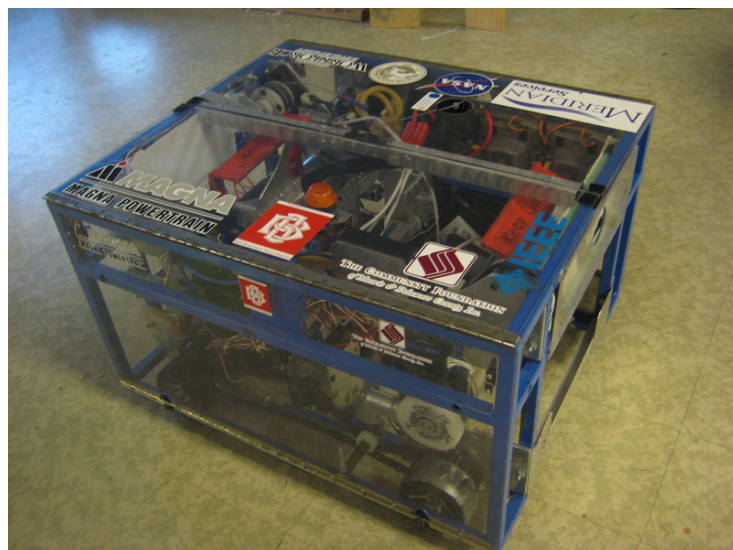
**Team 447, Madison County Community Foundation, Team Roboto.** Our only repeat essay contest winner was written by Olivia Walker, a thirteen year old attending Northpoint Homeschool. Her essay is a tribute to her father, Thomas Walker who has been a mentor for their team for five years.

**Team 1720, Muncie/Delaware FIRST Robotics, PhyXTGears.** An essay written by Maya LeBlanc, a junior at The Indiana Academy, describes "A Passion for Engineering" that their team gets from their lead mentor, Mark Littler.

Each of the winning essays can be found elsewhere in this issue of The Reporter.

Congratulations to our winners and thank you for our most successful contest. We are already looking forward to the 2011 contest.

Team 1720 Robot Showing  
the IEEE Decal



## 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? Get 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! with the main site. ([www.cis-ieee.org](http://www.cis-ieee.org)) Check out the calendar of events,

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## 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](mailto: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](mailto:bsnodgrass@ieee.org).

See you there.

## Time to Invent Club



Innovation and invention are cornerstones of American society, but not all young people have role models to open doors in science, technology, engineering and math (STEM). WGBH, Boston's PBS station, and the Lemelson Foundation are meeting this need through the creation of a new program, the Time to Invent Club. The program, which launched in both Boston and Indianapolis this year, places young STEM professionals and college students in afterschool programs once a week. Working with a group of 10-12 year-old kids, the mentors use a stepped-out curriculum that inspires youth to explore invention. The program will return in the 2010 - 2011 academic year in sites around Indianapolis and Lafayette.

### Goals of the Program

- Expose disadvantaged youth to the design process through fun, hands-on activities
- Build meaningful relationships between mentors and youth
- Inspire kids to continue their exploration of science, math, and engineering
- Introduce youth to STEM careers

### Roles of Mentors

Each afterschool site has two mentors that co-lead the weekly hour-long program. The mentors:

- Have fun working with kids to unleash their creative abilities
- Strengthen their leadership and teaching skills
- Receive training and a stepped-out curriculum
- Get a stipend for program supplies
- Enjoy the support of program staff, fellow mentors, and after-school leaders
- Raise the community service profile of their company or institution

### Requirements of Mentors

In addition to having the excitement to mentor kids, mentors are asked to:

- Commit to volunteering for 2-hours per week for 16 weeks during the academic year (set-up and break-down included)
- Attend a fall and spring training (dates TBD)
- Get to and from after-school site
- Collect necessary materials for weekly activities using the stipend
- Participate in program evaluation conducted by Concord Evaluation Group
- Gain clearance on background check

### Want to Become a Mentor?

We are looking for new mentors to volunteer in the 2010-2011 program. If you study or work in a STEM field and want to inspire kids, we'd love to hear from you! Interested?

### Please Contact:

Liza Silverman

Educational Outreach, WGBH

Phone: (617)-300-3642 or Email: [liza\\_silverman@wgbh.org](mailto:liza_silverman@wgbh.org)

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## New Chair of CIS - Signal Processing Society

CIS is pleased to announce that Prof. David Love of Purdue University has agreed to take over as chair of CIS-SPS. SPS was chaired by Ilya Pollak for several years and we are grateful for his service.

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## CIS-IEEE Continues Teacher Grants for 2010

### 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](http://www.tryengineering.org). Lessons focus on Science, Technology, Engineering, and Math and are designed for classroom presentation for under \$100.

#### Eligibility

- School must be located within the CIS-IEEE geographical area
- A lesson from [www.tryengineering.org](http://www.tryengineering.org) must be chosen
- The lesson must be presented by the classroom teacher. (Not by an IEEE Volunteer)

Teachers may determine geographic eligibility by reviewing Article I, Section 2 of the CIS Bylaws at:  
<http://www.cis-ieee.org/bylaws.asp>

#### 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](mailto: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](mailto: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](mailto: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>

Press Release

## Signal Integrity and Current Return Paths

By Donald L. Sweeney

When designing an electronic system, it is important that it function as intended; this requires an understanding of many aspects of EMC including signal integrity (SI). One of the principal ways we can learn to understand SI is by knowing where our currents are flowing, as they move from one area on the circuit board to another and return. It is always easy to know where the intended signal flows, as it will be contained in the trace you place on a circuit board, but where does the return signal current flow? If you have a ground plane the signal is “expected” to flow under the signal trace, as mirror current, as shown in Figure 1. At higher frequency “most” of the return current will flow under the signal trace but at lower frequencies this is not necessarily the case. The unsuspecting designer might be surprised to learn the return current at lower frequencies might take a totally different path than expected. (See Figure 2)

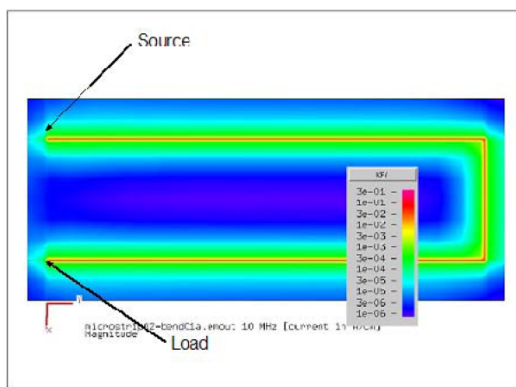


Figure 1: Return Current at 1 MHz

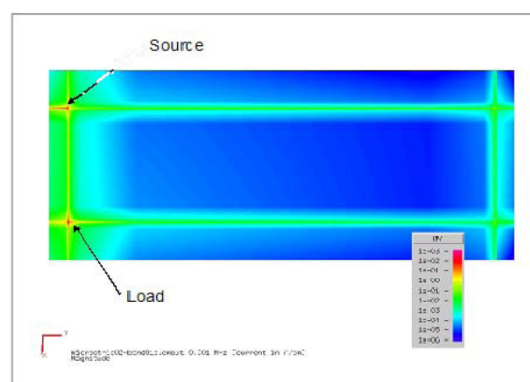


Figure 2: Return Current at 1 kHz

When a signal moves across a circuit board it often must transfer from one layer to another using a via. What happens to the return current? If the mirror current on one layer is not common with the mirror current on the layer the signal is now flowing above or below, how will it transfer from one plane to another? If you don't make it happen the return current must find its own way. It might be through a decoupling cap far from the via, or it might transfer using only the layer-to-layer capacitance of the planes as seen on the left of Figure 3. When this happens the current is spread over a large area, which greatly increases the possibility of cross contamination with other signal currents creating a loss of SI. A better way would be to add decoupling capacitors near the via as shown in Figure 3. This contains the current to the vicinity of the via the signal was passing through.

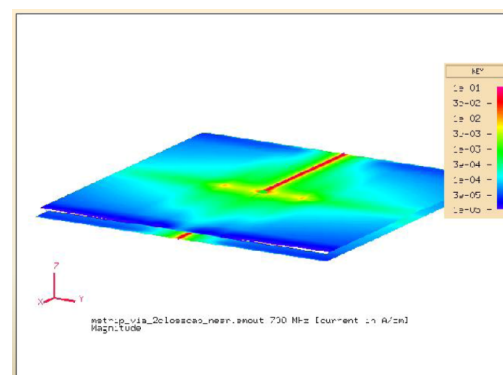
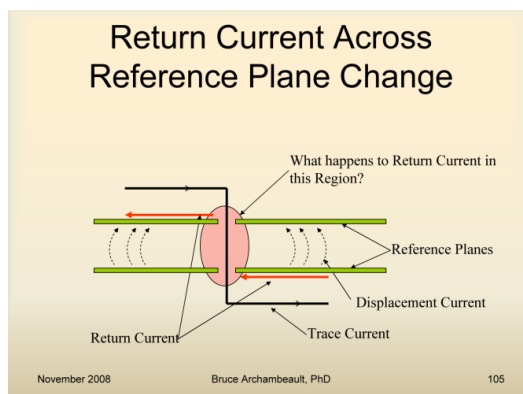


Figure 3: Return Current from Plane to Plane (no control and with control)

There are many aspects of EMC a design engineer needs to understand when designing electronics. Signal Integrity is just one. Members can get a more detailed understanding of this and other technical concepts in the upcoming 3-day course, *EMC By Your Design: An EMC Practical Applications Seminar and Workshop* being held Tues. Oct. 26 – Thurs. Oct. 28, 2010, Hilton Hotel, Northbrook, IL. The course includes: lecture, discussion and hands-on workshop; two textbooks and a large workbook of slides used in class; take-home proprietary EMC design software; free optional design evaluation of your product; and instructors with over 75 years combined engineering experience. For registration information contact Carol G. at [cgorowski@dlsemc.com](mailto:cgorowski@dlsemc.com) or at 847-537-6400. D.L.S. Electronic Systems, Inc., 1250 Peterson Drive, Wheeling, IL 60090 [www.dlsemec.com](http://www.dlsemec.com) ·

About the Author: Donald L. Sweeney has been teaching for over 30 years, at the University of Wisconsin, Oakton College and independent EMC design seminars. He is a senior EMC Engineer and President of D.L.S. Electronic Systems, Inc. He is a graduate of the Department of Electrical Engineering at the University of Illinois at Urbana and has over 40 years experience in the EMC and electrical engineering fields. Don specializes in EMC, RFI and EMI consulting and testing, and is known worldwide for his problem solving abilities. He has served as a special consultant to the Lawrence Livermore National Laboratory and the Nuclear Regulatory Commission. He is past chairman of the Chicago area IEEE EMC Society, founding chairman of U.S. Council of EMC Laboratories (USCEL), served on the board of directors of the IEEE EMC Society for twelve years, and is a NARTE certified EMC Engineer.

Figures used by permission from Dr. Bruce Archambeault

*End of Press Release*

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## **New Senior Members of CIS**

The following members of CIS were recently elevated to Senior Member status. Please congratulate the following:

Ahmed Hassanein, Vijay Khatri, Xianyin Lai, and Lu Sun



**Military and Aviation**  
EMC HIRF Lightning

MIL-STD 461 A-F  
RTCA/DO-160 C-F  
Boeing Airbus  
FAA AC20-136  
EUROCEA/ED-14E  
SAE ARP5412/5416

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## **VOLUNTEER OPPORTUNITIES**

The Central Indiana Section still needs help in a few areas. This is your opportunity to give back to an organization that has helped you in your career and a chance to network with your peers and gain recognition. The following positions are currently open:

- Fund Raising Chair
- Vice Chair
- Communications and Information Officer
- PACE Chair

Becoming an IEEE volunteer can be a gratifying and memorable experience. Whether your skills are suited for organizing conferences and meetings, fund raising, financial reporting, communicating or maintaining web sites, CIS can use your skills.

Additional opportunities for involvement include awards, educational activities and the development of new programs.

As an IEEE volunteer, you can take pride in participating in activities that interest you, while expanding your knowledge of the IEEE, gaining valuable management and leadership skills, and connecting with others in your profession.

If you are interested in serving in any of the above listed positions please contact any of the CIS officers listed near the end of this newsletter.

## IEEE Master Brand + Tagline Graphic Now Available for Download

Images of the IEEE Master Brand + Tagline graphic are now available online in the IEEE Brand Identity Toolkit, under the Master Brand and logos section. Use the IEEE Master Brand + Tagline graphic on materials when no other logo or logo with a tagline exists, as well as on all promotional items. Use the IEEE Master Brand graphic (without tagline) for all other applications. Learn more about the tagline at <http://www.ieee.org/tagline>.

Visit <http://www.ieee.org/go/brand>.

Contact [corporate-communications@ieee.org](mailto:corporate-communications@ieee.org) with questions.

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## myIEEE Adds myDesktop Personalization Options and Secure Messaging

Two new features that provide advanced customization and communication options have been added to myIEEE.

**myDesktop:** Allows IEEE members to organize their favorite myIEEE content how they want it, much like a personal myYahoo or iGoogle page. Options include:

- Customizable selection of all myIEEE “gadgets” (or modules related to membership, *IEEE Spectrum*, *The Institute*, conferences or IEEE *Xplore*® Digital Library, for example);
- Multiple layout options with drag-and-drop gadget placement;
- Choice of several technology-based backgrounds (e.g., aerospace, biomedical, communications, computing and more); and
- RSS tools to import feeds from IEEE or content sources outside of IEEE.

Members can log in to [myIEEE](#), select the “Customize” tab and begin personalizing their myDesktop page.

**memberNet messaging:** Allows members to communicate with each other, while ensuring member privacy. Members can send secure e-mail messages to each other by selecting the “send a message” button on profiles, allowing messages to be sent through the memberNet platform without revealing personal e-mail addresses.

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## **FIRST Robotics Essays**

Team 292, Western High School, PantherTech

**Kevin Keller: Engineer Extraordinaire**, by Rachel Wilson

Although PantherTech, team 292, of Russiaville, Indiana, has many outstanding engineering mentors who positively influence the team, Mr. Kevin Keller especially dedicates himself to the betterment of our team on a daily basis. He joined the team as a mentor six years ago when both his son and daughter became members of the team. Even though both of them have graduated, he still does everything he can to aid team 292. He helps with all aspects of the annual robot-building process, from the computer software programming to the hardware construction, and these are areas in which his experience as an engineer comes in handy.

While he was growing up, Mr. Keller was interested in all things mechanical. He loved to take cars apart in his garage just to see how they worked, and then he would spend hours tinkering with them. Finally, after much experimenting, he would put the cars back together, into their original formations. However, he was also interested in the building of computer codes as well, and he was enamored with the subject of computer programming. Computers were becoming more and more popular in society, and he wanted to know everything he could about them.

After Mr. Keller graduated from high school, he attended Purdue University where he studied computer science, one of passions that he had cultivated during his high school years. However, after his first semester at the university, he decided to expand his career possibilities while simultaneously maximizing his potential to make the most of his college education. At this moment he switched his career path toward engineering, and, more specifically, electrical engineering, and he discovered that he had a passion for this field as well. He knew that having not just one, but two, fields of experience and knowledge under his belt would allow him to obtain an ideal job after he graduated.

When Mr. Keller graduated from Purdue University with his hard-earned computer systems and electrical engineering degrees, he went on to search for his ideal job. He soon found his ideal job at Delphi, in Kokomo, Indiana, as a programming and hardware development engineer. When asked about his feelings for his job he quickly and enthusiastically replied, "I have the best job in the company!"

Even though Mr. Keller may not have originally included PantherTech in his plans for his career as an engineer, his engineering skills have greatly benefited the team. He believes, and it is clearly evident, that the engineering mentors in the robotics program, including himself, are able to supervise and mentor the students on the team while giving them a chance to gain electrical and mechanical real-world experience that is not easily gained in present-day society. He pointed out that one simply "can't take a car apart" because it is now a great feat to put it back together in working order. The robotics experience, however, allows students to build their own robot while preparing them for a possible career as an engineer. Therefore, he loves using his expertise as an engineer to influence younger students to achieve their goals and to satisfy their curiosity in all things electrical and mechanical. He uses his position as an engineer to ensure the success of young people; he wants the best for them. In conclusion, one of the chief reasons that Mr. Keller became both an engineer and mentor of PantherTech, team 292, is because he "like[s] to see kids have success and opportunities."

**Team 447, Madison County Community Foundation, Team Roboto**

## **Thomas Walker, Engineering Mentor**, by Olivia Walker

My Dad has been helping people since he was a young boy. His life began like many other kids in his area; summer afternoons of swimming, baseball and football. These days of fun came to an abrupt end when he was diagnosed with a rare bone disorder. At the age of 12, he broke his back and his neck at the same time. This event changed his life forever.

While he was recovering from his broken neck, he started putting models together. He discovered that he was very good at models and puzzles. He would never be able to play contact sports again, and had to be careful at play. My Dad began taking broken appliances apart to see how they worked, and to try to fix them. He had a talent that allowed him to “see” a problem so he could fix it quickly. This news spread throughout his neighborhood.

My Dad’s family turned a section of their basement into a shop for him to work on their neighbors’ appliances. He would take anything from curling irons and hair dryers to lamps and small appliances. He loved working with his hands and brains, also helping his neighbors out.

His life was taking a turn that might not have happened without a catastrophic event. You see, he struggled with a moderate level of Dyslexia and school work was anything but easy for him. Even before he broke his neck, he had to have special help with reading. It wasn’t until he was privately tutored that he realized he had a special gift. He realized that he could learn and he could learn at amazing rates. He just processed things a little differently than most kids. After he broke his neck, he gained the confidence he needed to pursue what he loved. He loved anything electrical and mechanical. In high school, he was fortunate enough to work on the mainframe computer for Indiana University. This was another door that opened up a world of combining some of the things he was already good at. He decided that the best step for him was to attend Vincennes University.

Vincennes had a new and cutting-edge Robotics program that was very exciting. His English classes were still challenging for him, but he now had the tools to succeed. He received two degrees from Vincennes University; one in Robotics and one in Electronics. He has worked for Frakes Engineering (a small family-owned engineering firm) ever since his graduation in 1986.

He is now able to help people, large groups of people, all over the city, state and nation with his automation engineering. He has started helping people again outside of work. Five years ago, he got involved with FIRST Robotics. Mentoring is rewarding because he is helping people, kids this time. He is able to share his enthusiasm for making things work with kids and their robots.

**Team 1720, Muncie/Delaware FIRST Robotics, PhyXTGears**

## **A Passion for Engineering**, by Maya LeBlanc

As demonstrated by the mentors on Team 1720, it takes a very special person to be an engineer. Mark Littler is not only a leading mentor, but he’s also a mechanical engineer technician. As a child, he loved tinkering with things to figure out how they worked. Torn between medicine, law, and engineering, his career decision was based on how much he enjoyed the constant expansion of knowledge being an engineer allowed.

At 13, he began woodworking. After tinkering with motors and transmissions from a young age, he was hooked on figuring out how things worked. Looking for real world exposure, he participated in two internships in his senior year of high school. First semester, he worked at Borg Warner. There, he was able to experience the work environment, but he did not get as much hands-on experience as he’d

hoped for. Second semester, he worked in a small machine shop and loved its environment and how much he learned from working on a task with experienced engineers, happy to teach him.

His passion for engineering was unleashed, nourished by his own desire to learn and progress. When asked what inspires him to be an engineer, he responded, "I get to play with fun stuff, and I get to do things I enjoy." Designing, prototyping, building, and seeing a task through from beginning to end are all things he loves about what he does. His real passion is learning. This profession allows him to learn something new every day. With every new project, he is able to do more.

To him, being an engineer is more than just a paycheck. It is his passion and his life. Skills -- such as teaching and problem solving -- that he's learned as an engineer are used worldwide and are applicable in all situations. Mark is not lukewarm about this career. "If you're going to do it, you have to love it," he says. "It doesn't get easier; you have to learn."

He became a mentor on our team two and a half years ago. Seeing that it is a fun and helpful environment for high school kids, he wanted to pass on what he had learned to us and give back to the community. FIRST is a wonderful organization and something he wishes he could have participated in as a high school student. He enjoys taking a problem and showing us how to best design and prototype solutions. He likes being beside us as we learn from trial and error. He helps us learn about time management as the season speeds by.

Mark is an engineer, but that one word only begins to describe him from his ability to work with people, young and old, to his ability to take a complex task and work through all the ups and downs to the end result. Learning from every mistake and sharing the passion of what he does through his work, his teachings, and his interactions with people around him, Mark is dedicated and constantly striving for self-improvement. For him, being an engineer is a passion.

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### 2010 Meeting Calendar

Date	Host	Subject	Location
Thursday, June 24, 6:00 pm	CIS	<b>Executive Committee Meeting</b>	IUPUI - ET201S
July 11 - 17	Purdue School of Engineering & Technology	<b>POWER Camp</b> <a href="http://www.engr.iupui.edu/power/">http://www.engr.iupui.edu/power/</a>	IUPUI
Sunday, August 15	CIS	<b>Annual Baseball/Picnic Outing</b>	Victory Field, Indianapolis
Wednesday, October 27	Electric League of Indiana	<b>Annual Exposition</b>	State Fairgrounds, Indianapolis

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

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**Central Indiana Section Active Volunteers**

**Director/CIECN** (317) 225-4126  
Will Kassebaum Will.Kassebaum@ieee.org

**Director** (317) 706-9125  
Steve Shen sshen@itt-tech.edu

**Chair** (812) 817-8622  
Phil Walter Phil.Walter@ieee.org

**Vice Chair**  
OPEN

**Treasurer** (317) 441-2076  
David Koehler David.Koehler@wicor.com

**Secretary** (317) 985-5360  
Karl Huehne khuehne@ieee.org

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

**Computer Society** (317) 715-8598  
Matt Etchison Matthew.Etchison@inin.com

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David Love [djlove@ecn.purdue.edu](mailto:djlove@ecn.purdue.edu)

**Engineering in Medicine and Biology Society**  
Jake Chen (317) 278-7604  
[jakechen@iupui.edu](mailto:jakechen@iupui.edu)

**Central Indiana Engineering Consultants' Network**  
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[dave@p3ngineering.net](mailto:dave@p3ngineering.net)

**Membership Development** (317) 726-1236  
Earl Hill eshill@loma-consulting.com

**Professional Activities**  
OPEN

**Newsletter Editor** (317) 985-5360  
Karl Huehne khuehne@ieee.org

**Communications Information Officer**  
OPEN

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

**Webmaster** (317) 838-2268  
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**GOLD Coordinator** (765) 350-0113  
Arun Kumar kumar16@gmail.com

**Communication Society** (260) 437-1177  
Sam Kincaid samk@ersdatasolutions.com

**Constitution and Bylaws** (317) 985-5360  
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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	<a href="http://www.acecindiana.org">American Council of Engineering Companies, Indiana</a>	acecindiana.org
ASCE	<a href="http://sections.asce.org/indiana">American Society of Civil Engineers</a>	sections.asce.org/indiana
ASME	<a href="http://sections.asme.org/central_indiana/">American Society of Mechanical Engineers</a>	http://sections.asme.org/central_indiana/
ASM-INDY	<a href="http://asm-indy.org">American Society for Metals - Indianapolis</a>	asm-indy.org
CIECN	<a href="http://indy-engineer.net">Central Indiana Engineering Consultants' Network</a>	Indy-Engineer.net
CINLUG	<a href="http://cinlug.org">Central Indiana Linux Users Group</a>	cinlug.org
IBEN	<a href="http://indianabionetwork.org">Indiana Biomedical Entrepreneur Network</a>	indianabionetwork.org
ICES	<a href="http://in-ces.org">Indiana Council of Engineering Societies</a>	in-ces.org
IHIF	<a href="http://ihif.org">Indiana Health Industry Forum</a>	ihif.org
INCOSE	<a href="http://www.incose.org">International Council on Systems Engineering</a>	www.incose.org
INDSPE	<a href="http://indspe.org">Indiana Society of Professional Engineers</a>	indspe.org
INDYASHRAE	<a href="http://indyashrae.org">American Society of Heating, Refrigeration, and Air Conditioning Engineers</a>	indyashrae.org
NSBE-IAE	<a href="http://nsbe-iae.org">National Society of Black Engineers - Indianapolis Alumni Extension</a>	nsbe-iae.org
PIMCIC	<a href="http://pmicic.org">Project Management Institute - Central Indiana Chapter</a>	pmicic.org
SAE	<a href="http://www.saesections.org/indiana/">Society of Automotive Engineers, Indianapolis</a>	http://www.saesections.org/indiana/
Sciencetech	<a href="http://scientechclub.org">Sciencetech Club in Indianapolis</a>	scientechclub.org
SIM	<a href="http://simnet.org">Indianapolis Chapter of Society for Information Management (SIM)</a>	SimNet.org
SWE-CI	<a href="http://swe-ci.com">Society of Women Engineers - Central Indiana Section</a>	swe-ci.com
Techpoint	<a href="http://techpoint.org">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.