THE REPORTER

CIS-IEEE 2007 Annual Awards Banquet

The sixth annual CIS-IEEE Awards Banquet was held on Wednesday, November 7, 2007 at the Ritz Charles in Carmel, IN. Rose-Hulman Institute of Technology's President, Dr. Gerald Jakubowski was the keynote speaker on the topic of "Future Trends in Engineering and Engineering Education".

The Central Indiana Section had three awards categories at the annual Awards Banquet: Region 4 Outstanding Engineer of the Year, Outstanding Member of the Year, and new Senior Members. The Outstanding Engineer of the Year award is based on contributions in technical areas, patents, and designs and was made to Damon Holladay. The Member of the Year award is based on a member's service contributions; for example: holding an officer's position in the section, leading a project or planning an event that benefited the section, as well as other community projects that are not specifically IEEE related and was made to Tom Bishop, our current Vice-chairman. Those members who were elevated to Senior Member status in the last year (November 2006 – October 2007) were recognized at the banquet and presented with a Senior Member Pin. This group includes: Reinhold M. Strnat, Karl MacDorman, Saurabh Bagchi, Yu Charlie Hu, Euvaldo Cabral, Ann Rundell, Babak Ziaie, Benno Petrig, and Ninghui Li.

Tom Bishop (left) receives the 2007 CIS-IEEE
Member of the Year Award from Alan Stillerman, CIS Director

**Dr. Jakubowski (right) keynote speaker receives his plaque
of appreciation from Will Kassebaum, CIS Chair.**

**Benno Petrig (left) receives his Senior Pin from Alan Stillerman,
CIS-IEEE Director at the 2007 CIS-IEEE Awards Banquet.**

Dr. Gerald Jakubowski, President of Rose-Hulman University delivers the keynote speech at the 2007 CIS-IEEE Awards Banquet.

Damon Holladay (left) receives the 2007 IEEE Region 4 Outstanding Engineer of the Year from Region 4 Director, Bob Dawson.

Damon Holladay, CIS-IEEE Member Awarded Region 4 Engineer of the Year

Damon Holladay, Technical Manager, Hoosier Energy, Bloomington, IN has been awarded the Region 4 Engineer of the Year, following his Central Indiana Section Engineer of the Year Award in 2006. Mr. Holladay is a graduate of Rose-Hulman Institute of Technology, and holds a Master's degree from Purdue University. He has 27 years of experience in the transmission planning, facilities costing, formally teaching, and maintenance requirements in the power delivery area in the electric power business in Indiana, and has been employed at Hoosier Energy for 24 years.

The following describes Mr. Holladay's accomplishments leading to this award:

CAREER

- Optimized maintenance practices over the past five years at Hoosier Energy in the transmission system (transmission lines, distribution substation equipment, relay/metering equipment, communication equipment, and right-of-way clearing).

- Interfaced with reliability compliance organizations and regulatory authorities (i.e.: Reliability First Corporation, NERC, RUS, and FERC) regarding industry standards for reliability compliance of the transmission system for power delivery under the new Electric Reliability Organization (ERO) requirements.

ELECTRICAL ENGINEERING COMMUNITY

- Served at Ivy Tech Community College in Bloomington as Adjunct Professor for several years teaching electrical circuits classes.

- Supported Rose-Hulman Institute of Technology students with their senior projects by providing access to industry programs and power flow information. (These students won the "Senior Power Engineering Project of the Year" award last year for students' projects in IEEE PES in Indiana.)

OTHER ACHIEVEMENTS
- Completed Ph.D. in Technology Management (Construction) in May 2005.
- Member of IEEE Power Engineering, Reliability, Industry Applications, and Communications Societies.
- Senior Member of IEEE (2005)

Congratulations to Damon on his award!

CIS-IEEE OFFICERS ELECTED FOR 2008

Chair: William R. Kassebaum   Treasurer: Carlotta Berry
Vice-chair: Steve X. Shen   Director: Niusha Rostamkolai
Secretary: Karl Huehne   Director: Allan Stillerman

Congratulations to these 2008 CIS-IEEE Officers!
*   *   *

2008 Meeting Calendar			
Date	**Host**	**Subject**	**Location**
Tue., Jan. 8	IBEN	Firing Up the Indiana Life Sciences! Peter T. Kissinger, Ph.D., Chairman Emeritus Bioanalytical Systems, Inc., Chairman/CEO of Prosolia, Inc. and Phlebotics, Inc., Professor of Chemistry at Purdue University	Ruth Lilly Learning Center Auditorium, IUPUI, Indianapolis
Mon., Jan 21	ASM	Heat Treaters' Night, Turbine component braze repairs, Scott Calardo - Bodycote	to be determined
Thu., Jan. 24	CIS-IEEE	Executive Committee Meeting	IUPUI ET 209, Indianapolis, IN
Sat., Feb. 9	CIS-IEEE	Consulting Workshop	tbd
Sat., Feb. 16	IEEE + others	National Engineers Children's Day at The Children's Museum of Indianapolis	Children's Museum, Indianapolis, IN
Mon., Mar. 17	ASM	Student Night/Scholarship Night, New Materials in Joint Replacements, Bernice Aboud-Depuy	tbd
Mon., Apr. 21	ASM	Business/Awards/Past Chair Night, EB Coatings , Dr. Albert Feinstein	tbd
Mon., May 19	ASM	Fabrication of Custom Bicycles, Steve Maus	tbd
Thu., Oct. 16	ICES	Professional Networking Event	tbd
... Check the Section web page for details and current information. ⌨⌨⌨.			

Toledo Section Celebrates Centennial

CIS-IEEE Director, Alan Stillerman attended the Toledo Section's Centennial on Thursday, November 8. The picture is of all Region 4 members present at the banquet with the centennial banner. Alan was there as East Area Chair, but also representing the Central Indiana Section. CIS congratulates the Toledo section on reaching this milestone. Other Region 4 Executive Committee members present included: Bob Dawson, Director; Don Bramlett, Chair of Long Range & Strategic Planning. Dr. Russell Lefevre, 2007 President Elect IEEE-USA, gave the keynote address.

*   *   *

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Editorial Policies
Each issue of The Reporter references three months - the month in which it is published and the following two months. The Reporter is not published in June, July, and August because there are generally fewer meetings held during the summer months.

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 monthly updates. If no update is received for that month, only the mission statement and contact information will be published for that entity.

Copy should be submitted electronically. Photographs are most desirable and may be submitted in electronic format or color, black-and-white glossy, or Polaroid. Please note that black-and-white photographs reproduce best. Advertisements are welcome. Contact the editor for layout sizes and rates.

Distribution: The Reporter is distributed to approximately 1900 IEEE members within the Central Indiana Section including student members and faculty of Purdue, IUPUI, Rose-Hulman and ITT Technical Institute. The Reporter may be selectively distributed to non-members when it serves the aims of the Section. Examples include public, industrial, and school libraries, and other engineering societies and professional organizations. Inquiries for complimentary subscriptions should be made to the Editor.

Power Engineering Society / Industry Applications Society

The PES/IAS has wrapped up another year of interesting short courses and lectures. The two short courses – Power Engineering 101 and Predictive Maintenance for Power Delivery – were well attended, as were the seminars on Wind Energy, Arc Flash, and Forensic Engineering.

In 2008, we have an ambitious schedule of activities. To date the following activities have been scheduled:

January 4, 2008

Grand Opening, Lugar Center for Renewable Energy,

IUPUI ET 215, 799 W. Michigan St. Indianapolis, IN 46202

(Public Event – CIS-IEEE has agreed to help with promotion. Senator Lugar will speak at this event).

January 15, 2008

Green Buildings and Energy Efficiency – Bill Brown, Browning Day Mullins Dierdorf, Architects

Safety Room, Indianapolis Power & Light, 1230 Morris St. Indianapolis, IN 46221.

February 12, 2008

Tour of Lugar Center for Renewable Energy – Dr. Andrew Hsu, Director

IUPUI ET 215, 799 W. Michigan St. Indianapolis, IN 46202.

March 2008

Short Course – Engineering Economics–

Safety Room, Indianapolis Power & Light, 1230 Morris St. Indianapolis, IN 46221.

April 15, 2008

Annual CIS-IEEE/PES-IAS Student Awards Banquet

Safety Room, Indianapolis Power & Light, 1230 Morris St. Indianapolis, IN 46221.

May 8, 2008

Tour of Midwest Independent System Operator (MISO)

701 City Center Drive, Carmel, IN 46032.

June 12, 2008

Advances in SCADA Technology

Safety Room, Indianapolis Power & Light, 1230 Morris St. Indianapolis, IN 46221.

More events will be scheduled for the fall, including another short course.

Please consult the Section web page for additional details on the times and dates for these events (which may change). For more information, contact Mr. Earl Hill, Chairman, PES/IAS at 317-726-1236 or eshill@loma-consulting.com

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Indiana Entrepreneurship & Innovation Day

Indiana Convention Center

November 8, 2007

by Duane Mattern

Techpoint had its ten-year anniversary in November 2007. It celebrated by sponsoring Entrepreneurship events throughout Indiana the week of November 5-9, culminating in the Technology Summit 10 on November 9. Thursday November 8 was Entrepreneurship and Innovation Day at the Indiana Convention Center in Indianapolis. The keynote speaker at the luncheon was Guy Kawasaki, Managing Director of Garage Technology Ventures. The following events were held at the convention center:

- SBIR/STTR Grants at the National Institute of Health

- Getting the most out of Indiana's new patent income tax exemption law

- SBIR/STTR grant opportunities with the Department of Homeland Security

- An overview of the 21st Century Fund & SBIR/STTR initiative programs, (IEDC)

- Navigating the Navy's SBIR/STTR program

- What to Expect when you're expecting venture capital

- Fostering Indiana technology partnerships with Indiana's major employers

- Succession planning for entrepreneurs & small business Innovation

- Traditional source of business funding

- Collegiate Idol, (http://www.techpoint.org/iedcday/collegiateidol.htm)

- Venture Idol, (http://www.ventureclub.org/ventureidol/)

Collegiate Idol and Venture Idol were competitions of business ideas, modeled after the television show, American Idol. Collegiate Idol consisted of two rounds; a one-minute elevator pitch presentation and a five-minute presentation with a judge question and answer period. Students from Indiana universities pitched their businesses to the judges in hopes of winning the top prize. Venture Idol was a similar format, but the contestants were from local businesses, not college students. If you missed the event, the finalists' pitches will be made available online at http://www.indianaentrepreneur.tv

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Central Indiana Engineering Web Links

ACEC	American Council of Engineering Companies, Indiana	acecindiana.org
ASCE	American Society of Civil Engineers	sections.asce.org/indiana
ASME	American Society of Mechanical Engineers	http://sections.asme.org/central_indiana/
ASM-INDY	American Society for Metals - Indianapolis	asm-indy.org
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	www.incose.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	http://www.saesections.org/indiana/
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

Being Intellectual about Intellectual Property

Getting the Most Out of Indiana's New Patent Income Tax Exemption Law

by Duane Mattern

On Thursday November 8, Indiana's new patent income tax exemption law was discussed by a panel at the Entrepreneurship and Innovation Day at the Indiana Convention Center in Indianapolis. I believe the panel was moderated by Jeff Heinzmann (IEDC). The panel consisted of the following lawyers:

Cedric Axel D'Hue, Associate, Baker & Daniels LLP

Mike Pellegrino, President & Founder, Pellegrino & Associates, LLC

Jonathan Polak, Chair, Intellectual Property Group, Sommer Barnard PC

Mark Shublak, Partner, Ice Miller LLP

The discussion was on the development and work that it took to get the law passed and the consequences of the new law, Indiana Code 6-3-2-21.7. The law was patterned after a similar patent tax exemption law in Ireland. The law effectively provides an Indiana tax exception for income from "qualified" patents awarded after December 31, 2007 to Indiana individuals and companies with fewer than 500 employees or a nonprofit organization and is domiciled in Indiana. The state tax exception is 100% for a number of years and is then phase out for a total exemption period of 10 years. The starting period for the exemption does not have to coincide with the patent award and the exemption does not have to be taking in consecutive years. Consult your patent lawyer and state tax accountant for details.

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Joint INCOSE & IEEE Computer Society Meeting Report

by Duane Mattern

Pattern-Based Systems Engineering (PBSE):
Outcome Impacts and Experiences

William D. Schindel, President of ICTT System Sciences

On Thursday, November 29 a joint meeting with INCOSE and IEEE members was held at Beckman Coulter (BC) on the northwest side of Indianapolis. Beckman Coulter is a leading manufacturer of biomedical testing instrument systems, tests and supplies that simplify and automate laboratory processes. Dan Allison hosted the meeting for Beckman Coulter. BC provided an excellent onsite meal and a BC backpack filled with treats was raffled after the presentation. Twenty-four people attended the meeting to listen to the principal speaker, William D. Schindel.

Bill Schindel is president of ICTT System Sciences, (ictt.com, Terre Haute, IN) which is a 24-year-old systems engineering enterprise. Bill began his career in systems engineering mil/aerospace systems in the late 1960s for IBM Federal Systems, Owego, New York, served as a tenured member of the faculty of Rose-Hulman Institute of Technology, and co-founded several high technology systems businesses. Bill is a founding director of the Crossroads of America Chapter of INCOSE, (incose-coa.org), holds B.S. and M.S. degrees in Mathematics, and was awarded an honorary D.Eng degree from Rose-Hulman Institute of Technology for his work in systems engineering and telecommunications.

The presentation was about investing early in "Patterns" in order achieve later gains. The talk was primarily aimed at large corporations with multiple related product lines that required tens of, or hundreds of supporting employees. As such, the

attendees included employees of Beckman Coulter, Roche Diagnostics, Eli Lilly, Rolls Royce, and ICTT. "Patterns" used here refer to reusable and configurable models, (configurable in the sense of being parameterized). These patterns can describe requirements and designs that satisfy these requirements. The key that Bill emphasized was to find the *core system patterns* that cover an entire product line. Using the general core system patterns over all products is where the gains are obtained, since new product/projects do not have to start from a clean sheet and can benefit from all that was learned previously.

Bill is a founding director of the Crossroads of America Chapter of INCOSE and the presentation files will be available on the incose-coa.org website in the near future. INCOSE plans to have meetings every other month and they are looking for new members. Keep your eye on the INCOSE website and IEEE meeting announcements for information about future meetings.

<p style="text-align:center">*** * ***</p>

IEEE Foundation Announces 2008 Application Deadlines

The IEEE Foundation, Incorporated, the philanthropic arm of the IEEE, is committed to improving the technological literacy of society from childhood through adulthood. One way the IEEE Foundation seeks to achieve this goal is by awarding grants to new and innovative projects. During 2008, unsolicited applications will be accepted in three cycles from IEEE units and other organizations working in areas of relevance and importance to the IEEE and its membership. Projects should achieve one or more of the following objectives:

·   Improve primary and secondary science, technology, and math learning
·   Encourage pre-university students to consider engineering as a career path
·   Increase the public's understanding of the role of engineers and technology in society
·   Preserve the history of IEEE associated technologies
·   Tap the technological expertise of IEEE members
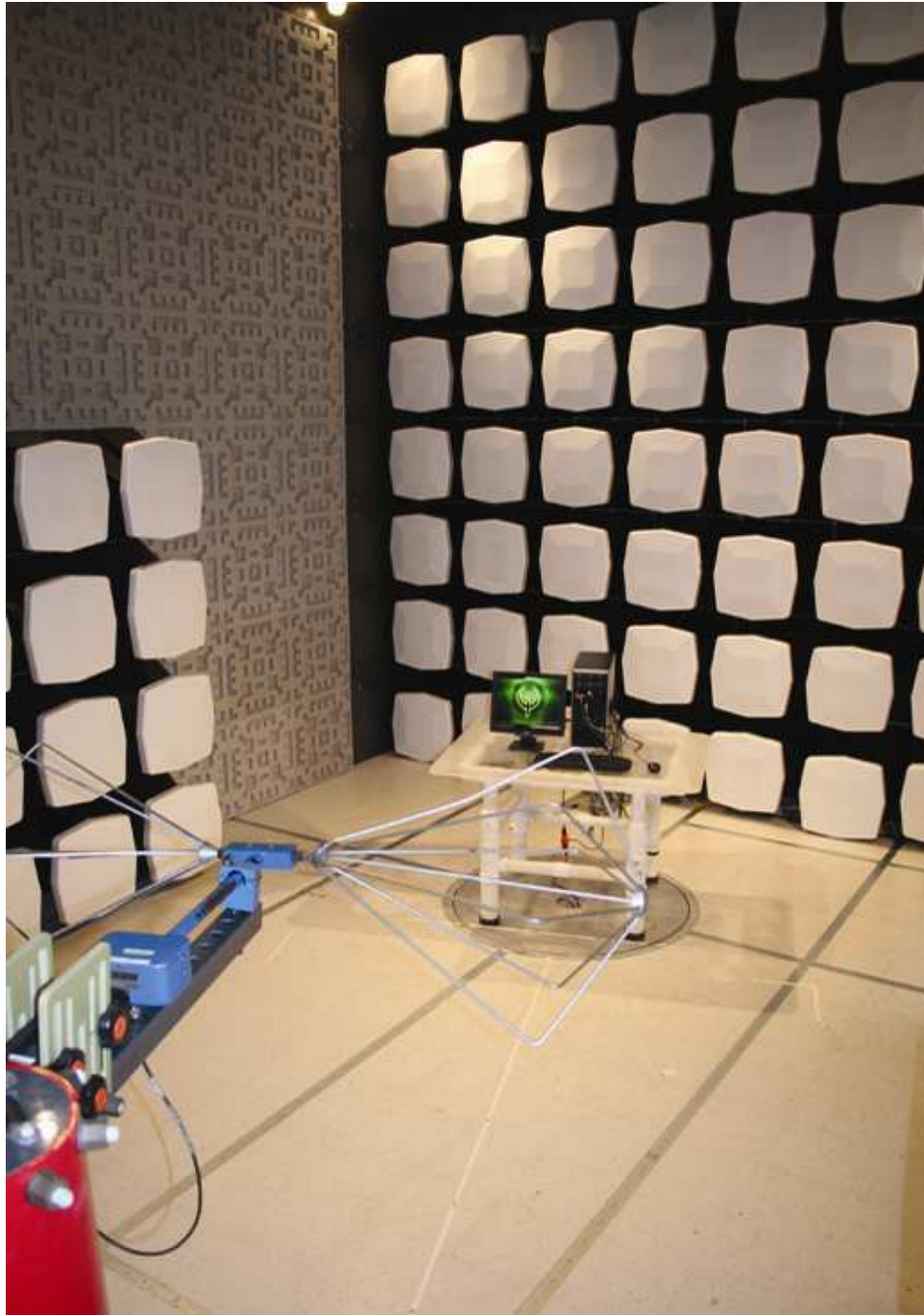·   Demonstrate ability to be replicated

APPLICATION DEADLINE	IEEE FOUNDATION MEETING DATE
January 4, 2008	March 2008
April 18, 2008	June 2008
September 5, 2008	November 2008

Before submitting the online application, please review "How to Apply for a Grant"
(http://www.ieee.org/organizations/foundation/grants.html).
All applications will be considered for funding by both the IEEE Foundation Board of
Directors and the IEEE Life Members Committee. Questions should be directed to the IEEE
Foundation Administrator at +1 732 981 3435 or foundation-office@ieee.org.

New 3-Meter Chamber

D.L.S. Electronic Systems, Inc. has added a new fully-automated, state-of-the-art, semi-anechoic 3-meter chamber to its Wheeling, IL testing facility. This chamber, listed with the FCC, allows for a streamlined measurement process, at frequencies that exceed 1 GHz. More products currently have clock/crystal frequencies >108 MHz, and the FCC requires these frequencies to be tested beyond the former 1 GHz limit. D.L.S. offers global compliance programs for EMC and Product Safety, providing a one-stop shop. More information can be found at www.dlsemc.com.

Write an Essay – Win $500 for your FRC Team
Central Indiana Section Announces
Second Annual Essay Contest

The Central Indiana Section of the IEEE (pronounced Eye-triple-E) is inviting all Central Indiana FIRST Robotics Competition Teams to submit their essays to earn a $500 Sponsorship. Three Sponsorships will be awarded. The IEEE is the world's leading professional association for the advancement of technology. With more than 350,000 members worldwide, IEEE, the Institute of Electrical and Electronics Engineers, is the largest technical society in the world. The IEEE is a leading authority on areas ranging from aerospace systems, computers and telecommunications to biomedical engineering, electric power and consumer electronics among others. Central Indiana Section of the IEEE is the local organization supporting IEEE members in Central Indiana. Central Indiana Section boasts more than 2000 members.

Eligibility for Sponsorship
FRC Teams must meet one of the following requirements
Teams Headquarters must be located within the CIS geographical area
Team must have an Adult Mentor who is a CIS Member
Teams may determine geographic eligibility by reviewing Article I, Section 2 of the CIS Bylaws at http://www.cisieee.org/bylaws.asp. Teams may determine Adult Mentor eligibility by sending their Mentor's Name and IEEE Member Number to bsnodgrass@ieee.org.

Essay Contest and Sponsorship Rules
Teams must submit a short (one-page) essay describing how at least one of the tasks to be performed by their robot for the 2008 game could be applied to a robot used in industry. The essay must describe a task that the team's robot will perform as part of the 2008 game. The team may compare these tasks to a task already performed by robots in industry or may propose a new task that their robot could perform in industry. Submissions must be in PDF format. Only one entry per team is allowed. The top three entries will be selected from all submissions. Each of the three winning teams will receive a $500 Sponsorship from CIS-IEEE. The judges will determine the winning entry and the decision of the judges is final. Winning Teams are required to display the CIS-IEEE logo at all competitions and demonstrations.

Deadline
Entries must be submitted by Friday, February 15, 2008. All entries must be sent to bsnodgrass@ieee.org. All submissions will receive confirmation that their essay was received and that they have met eligibility requirements. Awards will be announced by Friday, February 29, 2008.

IEEE Resources for Students and Teachers
http://www.cis-ieee.org/
http://www.ieee.org/web/aboutus/home/index.html
http://en.wikipedia.org/wiki/Ieee
http://www.ieee-virtual-museum.org/index.php
http://www.ieee.org/web/education/home/index.html
http://www.ieee.org/web/education/preuniversity/tispt/index.html

Questions
Questions or requests for help with research can be sent to Brad Snodgrass at bsnodgrass@ieee.org. Brad is an Adult Mentor for Team 829 at Warren Central and will not be judging the contest. Teams' questions and requests will **not** be shared with Contest Judges.

Joint CIECN & IEEE Computer Society Meeting Report

by Duane Mattern

An Introduction to FPGA

Matt Rings & Todd Holthaus

National Instruments

On Thursday, December 6 a joint meeting between CIECN and the IEEE computer society was held at Country Inn & Suites by Carlson, on the southwest side of Indianapolis. Thirty people attended the meeting to listen to the principal speaker, Matt Rings. The presentation was well attended by a variety of people and companies. Five people attended the pre-meeting networking dinner at Damon's.

Matt Rings graduated from The Ohio State University in 2000 with a Bachelor of Science in Electrical & Computer Engineering, and joined National Instruments immediately afterwards. Matt has been working as a field engineer in central Ohio since 2001 out of the Columbus, Ohio office. Todd Holthaus received a Bachelor of Science in electrical engineering and a Master of Science in computer engineering from the Rose-Hulman Institute of Technology, as well as a Master of Science in electrical engineering specializing in signal processing at the University of Notre Dame. Todd worked for four years as an embedded software engineer at Delco Electronics in Kokomo, Indiana, and five years at Software Engineering Professionals in Carmel, Indiana. Todd works out of the National Instruments Indianapolis office.

The presentation was an introduction to Field Programmable Gate Arrays, (FPGA). An example of a Serial Peripheral Interface, (SPI) communication link was given, but the emphasis, (and advantage) was on proprietary interfaces and an example of a game console interface was presented. The advantages of FPGAs were presented as: logic running in hardware (no software bugs); fast execution (example: nanosecond time delays possible); true parallel execution, (multiple interfaces operating at same time). The advantages of using LabVIEW for FPGA programming were also presented: dataflow programming paradigm maps well to FPGA for parallel execution, quicker code development in a higher level language than VHDL; existing instrumentation and communication libraries are available.

You can find additional information and tutorials on FPGA at the following links:

National Instruments - Welcome to the LabVIEW FPGA IPNet

National Instruments - LabVIEW Online FPGA Tutorial

TechOnline.com

DesignLine - Do's and Don'ts of Architecting the Right FPGA Solution for DSP Design

DesignLine - FPGA Soft Processor Design Considerations

DesignLine - How to Protect Intellectual Property in FPGA Devices

DesignLine - Tackle Team-based FPGA Design

DesignLine - The FPGA "Fountain of Youth" (field logic updates)

Embedded.com - More about Embedded FPGAs (October, 2007) Updated!