



ION Saint Louis



SUMMER 2011

Inside this issue:

Society List	2
Chair's Column	3
Section News	4-5
Announcements	6
IEEE Announcements	7-11
IEEE Information	12
Career Opportunity	13-14

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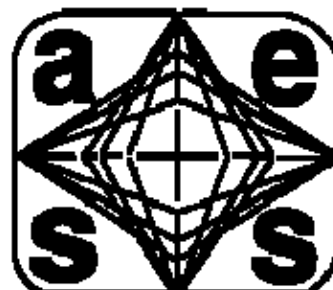
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Society List

IEEE Education Society



Chair's Column

Summer time is typically a down period of time for the Section. This is primarily due to students being off for the summer. Since students play such a vital part of the Section, we try to avoid scheduling events during this time frame. Over the past 3 months, however, the following events have occurred.

Discussion in rejuvenating the IEEE Microwave Theory and Techniques Society (MTT-S). In the past, the Section had an active MTT Society but has since become dissolved. However, due to renewed interest, this Society along with a Joint Chapter including other similar Societies are in the process of being re-established.



The Section held a joint meeting with the Power & Energy Society (PE&S) Chapter as a plant tour at the Bussmann Gubany Center in late April. We wish to thank Dan Neeser of Cooper Industries for arranging the event. Approximately 30 members and students attended the events. PDH credit was made available for those attending. A photo below shows the lab facility used to test over current protection devices.

The Section held a joint meeting with the St. Louis Chapter of MSPE and INCOSE at the Engineers Club in St. Louis in April. The event was a luncheon on Intellectual Property presented by IEEE member and patent attorney Mr. Kirk Damman. Approximately 30 members attended the event and received PDH credit.

The Executive Planning Committee held a Planning meeting in March as one of the quarterly meetings. Business was discussed.

In March, the Section hosted a Robotics Qualifying Round for all Section Student Branches. The winner of the round would represent the Section at the Region 5 Robotics Competition in April at Baton Rouge, LA. The competition was held on the SLU Campus and organized by Dr. Kyle Mitchell. Team #1 from the Missouri University of Science & Technology (MST) won the competition. Other teams to compete included SIU-E, Mizou and a Team #2 from MST.

Please note that the next Section Planning meeting will be held on 12th July to discuss and select:

- Award nominees
- New Section Secretary
- Black Box Competition
- Christmas Social Planning

Respectfully submitted,
Bob Becnel, P.E.
Chair, Saint Louis Section



Section News

ST. LOUIS SECTION STUDENTS WIN IN IEEE REGION 5

Missouri S&T computer engineering senior, Kathryn N. Rodhouse, was recognized with the IEEE Larry K. Wilson Regional Student Activities Award for her efforts to introduce programming to pre-college students. She was also the first place winner in the Region 5 Student Papers Competition for her undergraduate research.

The Missouri S&T team of Ms. Rodhouse and Kevin Robison placed second in the Region 5 Student Ethics Competition. The Southern Illinois Univ.-Carbondale team of Kyle McLaren & Tim Saruwatari placed third in the Student Ethics Competition. This competition requires students to prepare and present an analysis of a scenario in professional ethics.

The Missouri S&T team of Corbin LeGrand, Max Eisenbraun, Blake Lemons, Taylor Clonts, Tim Johnson, and Brad Collins placed third in the Region 5 Robotics Competition.

The April 16th student events were held at the 2011 Region 5 Annual Conference of the Institute of Electrical and Electronics Engineers (IEEE). The conference was in Baton Rouge, Louisiana. Region 5 includes states of Arkansas, Colorado, Kansas, Louisiana, Missouri, Oklahoma, Texas, and parts of the surrounding states. Dr. Steve E. Watkins, Professor in ECE, coordinated the student events for Region 5.

Congratulations to all the students winners and their respective universities for their recognition by the IEEE Student Events Committee.

CALL FOR NOMINATIONS:

The IEEE St Louis Section would like to recognize its outstanding members for 2011. If you would like to nominate a fellow member, please take the time to download a nomination form, fill it out and submit it on that member's behalf. The winners will be awarded at this year's Winter Social.

All of the award categories are listed on the nomination form. All of the forms should be completed and returned before the 31st of July.

Send all nominations to david.kreher@gmail.com. Please include "IEEE STL Nominee" in the subject line.

Section News

MISSOURI S & T DELEGATION VISITS EGYPT

A delegation from Missouri S&T visited Future University, Egypt (FUE), from May 17 – 23, to assist in the evaluation of FUE's new engineering programs. Invited by Professor Anthony Perzigian, advisor to the FUE's board of trustees, were Ralph Flori, Gulf Oil Foundation Professor and Chair of Geological Sciences and Engineering; Daniel Oerther, John A. and Susan Mathes Chair of Environmental Engineering; and Donald Wunsch, Mary K. Finley Missouri Distinguished Professor of Computer Engineering.

The S&T delegation provided an initial assessment of the students, curriculum, faculty, facilities and administration of FUE, which is attempting to meet standards acceptable to the Accreditation Board of Engineering and Technology.

Wunsch stayed on through June 8 to visit American University in Cairo (AUC) in the Department of Computer Science and Engineering. Their program, the Distinguished Visiting Professor program, is designed to provide their students access to internationally recognized scholars. The visit was Wunsch's second in this capacity. His talks were entitled "Clustering Algorithms," and "Hierarchical Clustering on Specialized Hardware and Biclustering: Two Recent Advances". He also participated in strategic advice to their department, research collaboration, and cultural exchange activities.



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(Formerly University of Missouri-Rolla)

Engineering Education Center in St. Louis

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- AEROSPACE ENGINEERING
- CIVIL ENGINEERING
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- COMPUTER SCIENCE
- ELECTRICAL ENGINEERING
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2011 FALL MISSOURI CONFERENCEWORKSHOP

24th ANNUAL MOCON

Advanced registration for the 2011 FALL Missouri Conference (MoCon) Workshop is now open. Advanced registration fees are \$500.00 for a full day tutorial and \$250 for a ½ day tutorial. Advanced registration will close on Friday, October 14, 2011. After that, the fees will be \$550 for a full day and \$275 for a ½ day tutorials.

Tutorial Listing:

Wednesday, 26 OCT 2011

- 1. Electrical OverCurrent Protection by Mr. Paul Friemel, PE (Bussmann)
Location: Bussman HQ, STL County

Thursday, 27 OCT 2011

- 1. Arc Flash Analysis (1/2 Day) by Mr. Edwin Scherry (UMSL)
Location: University of Missouri at St. Louis Campus

Friday, 28 OCT 2011

- 1. National Electrical Code 2011 Update by Michael W. Smith, PE (UMSL)
Location: University of Missouri at St. Louis Campus
- 2. Advanced Electrical OverCurrent Protection by Mr. Paul Friemel, PE(Bussmann)
Location: Bussman HQ, STL County

Classes start at 8:30 am and end at 5:30 pm. Lunch is also provided for those taking two ½ day tutorials on the same day between 12:30 –1:30 pm.

You may either use this form or register online at the MoCon Workshop web site: www.moconstl.com.

IEEE Members receive a 20% discount.

PDHs and CEUs awarded.

Name _____ Tutorial # _____ Amt Enclosed\$ _____
 Address _____ City/State/Zip _____
 Email address _____ Tel No. _____ IEEE Member # _____

Remit check or purchase order, no credit cards, payable to “2011 Fall MoCon” and mail to:

JERRY HERMAN, MOCON TREASURER
 2112 McGregor Circle
 Dardenne Prairie, MO 63368,

Please contact Mr. Bob Menzel (314 545 6712) for more information

IEEE Announcement

IEEE Smart Grid Newsletter and New Video Series

In June, IEEE Smart Grid launched a new video series featuring interviews with IEEE experts from around the world discussing the latest Smart Grid trends and issues. The video series is available on the IEEE Smart Grid portal as well as in youtube. Another highlight was NPR's Science Friday program on Smart Grid, 'Building A Better Electric Grid,' that featured IEEE Senior Member and member of IEEE Smart Grid Task Force, Erich Gunther. IEEE Smart Grid engagement in social media is growing, with 425 followers on Twitter. Last but not least, IEEE Smart Grid Newsletter has realized a 111% growth in subscribers since its first month in January 2011. The June issue of the IEEE Smart Grid Newsletter, with all new, exclusive insight and information on Smart Grid, is now available.

Access June and earlier issues of the IEEE Smart Grid Newsletter at <http://smartgrid.ieee.org/publications/smart-grid-newsletter>

Stay Connected to IEEE with the New Official Facebook Page

IEEE recently expanded its social media presence with the creation of the [IEEE official Facebook page](#). This joins many existing IEEE Facebook pages and groups and is designed to serve as the hub of all social media activities on Facebook.

To provide easy access to the official IEEE Facebook page and other social media sites, a set of icons now appears on the top of every IEEE.org page. Simply click on the different social media icons (Facebook, Twitter, LinkedIn, and YouTube) to connect to IEEE's corresponding social media pages. These icons are designed to encourage collaboration and dialogue on IEEE fields of interest across various media platforms.

Email socialmediahelp@ieee.org for more information.

IEEE Annual Election Announcement: Page 1 of 4

2011 IEEE Annual Election

Candidate Biographical Materials

All candidates whose name will appear on the IEEE annual election ballot are requested to provide the following items that will be used in preparing the election materials. Samples biographies and statements from a previous election is available at www.ieee.org/documents/candidatebios.pdf. Print samples are available upon request.

NOTE: Starting with the 2011 annual election, the publication of "IEEE Activities" will be combined into "IEEE Accomplishments".

Candidate Photograph

- Candidate photograph taken after 14 August 2009 (taken within two years of the ballot mailing date)
- Confirmation from candidate that the photograph was taken after 14 August 2009
- Preferred photograph format is digital in either TIFF or high-quality JPEG format, 300 DPI resolution, and minimum size of five inches across
- Photograph will be used in the print candidate biographies booklet, candidate materials posted on the annual election website (www.ieee.org/elections) and on the ballot electronic website hosted by the election supplier

Personal Candidate Website

- IEEE will not be hosting personal candidate websites
- Candidate materials (print and electronic) will include a link to personal candidate website if one was provided by the candidate
- There is no limit on the amount of material or information posted on the personal candidate websites
- Personal websites will need to include the following disclaimer prominently displayed on the web pages

"The opinions expressed on this website are the opinions of the author and not necessarily the opinions of the IEEE."

Biography

- Personal biography should round out the profile of the candidate's experience outside IEEE activities
- The recommended writing is in third person (i.e., format used by IEEE journal authors)
- Word count limit is 150 words for all candidates

IEEE Accomplishments and Services

- Starting in 2011, the history of "IEEE Activities" will be combined into "IEEE Accomplishments." The new heading will be "IEEE Accomplishments and Services" and the new word count limit is 300 words.
- Factual summary of IEEE accomplishments now includes the IEEE volunteer activities.

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IEEE Member Benefits

EBook Classics for IEEE Members

[18 new titles](#) were added for the 2011 membership year. IEEE members now have access to more than 240 eBooks from the IEEE Press collection through IEEE *Xplore*, at no additional cost.

The eBook collection spans a number of today's technologies across 15 different content areas, and includes:

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2. Under the "Browse" heading in the left-hand navigation, click on "Books".
3. On this page, you can browse alphabetically by book title, or if you prefer, browse by keyword, such as "software".
4. If the title is included in the IEEE eBook Classics, you will see an orange "FREE" icon to the right of the book's title, and individual chapters will have live links.

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IEEE memberNet is an online search and networking tool that allows members to connect with technical and engineering experts worldwide. This tool can be utilized by members seeking peers who share a common technical interest, membership, or affinity.

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- Only online directory that connects all IEEE members.
- Enables networking by technical and geographic affiliations, affinities, and more.
- Flexible search building tool using multiple criteria.
- 'myNetworks' personalization to each member's technical interests and involvement with IEEE.

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Sr. Motor Design Engineer Career Opportunity

A rapidly growing division of Nidec Motor Corporation seeks candidates to fill a **Sr. Motor Design Engineer** position, in **St. Louis, MO**. Nidec is the world's leading manufacturer of small precision motors, including motors used in hard disk drives and optical disk drives (including Blu-ray disk drives). The company has extended its focus beyond the information storage motor market to the home appliance and automotive markets, where it sees high future growth potential. Manufacturing facilities and technology centers are located in the United States, Mexico, China, India, and the UK.

Responsibilities include:

A Senior Motor Design Engineer requiring the technical competence for developing motor product for the HVAC and Automotive industries. Activities include leading development programs, establishing testing requirements, technical review and approval of supplier designs, independent motor design analysis, computer analysis tool utilization, technical specification preparation and support manufacturing engineering on all new designs. Extensive communications with customer and supplier personnel required. A strong background in rotating machinery is required. Familiarity with motor finite element analysis and mechanical design is a plus.

Knowledge, Skills and Abilities:

- MS or BSEE with 5 years experience.
- Mechanical design knowledge of electric motors, including thermal, stress, vibration, and noise.
- Minimum of 5 years of experience designing Brushless Permanent Magnet Motors.
- Some background with IPM, IM SRM and other traction motors.
- A strong background on magnet and steel properties.
- Familiarity with motor finite element analysis is a plus.
- An understanding of vector control, field oriented control, direct torque control and sensorless software algorithms for electric motors.
- Capability to provide the leadership role on a project.
- Good communication skills.
- Project presentation skills.
- Ability to understand customer specifications and application requirements
- Computer skills (MS Project, MS Office, Windows).
- Experience with Failure Mode and Effects Analysis (FMEA).
- Project management skills. The incumbent will be expected to provide regular project updates to internal management and customers, and also participate in future product and strategic planning sessions.



IHP Motor Design Career Opportunity

A rapidly growing division of Nidec Motor Corporation seeks candidates to fill an **Engineer IV** position, in **St. Louis, MO**. Nidec (formerly Emerson Motors and Control) is the world's leading manufacturer of small precision motors, including motors used in hard disk drives and optical disk drives (including Blu-ray disk drives). The company has extended its focus beyond the information storage motor market to the home appliance and automotive markets, where it sees high future growth potential. Nidec Motor Corporation is primarily engaged in the manufacture and sale of industrial and high efficiency motors in applications ranging from water treatment, mining, oil and gas, power generation, air conditioning, rooftop cooling towers and commercial refrigeration. Manufacturing facilities and technology centers are located in the United States, Mexico, China, India, and the UK.

Essential Job Functions

- Works with R&D group to design and develop inverter systems for 100KW range electric motors.
- Works with Project Manager and cross-functional teams to understand project goals, objectives, and to work toward meeting stated deliverables.
- Performs product validation and agency testing of inverter systems.
- Documents design by maintaining and updating schematics and BOMs.
- Creates additional product specifications (e.g., manufacturing instructions, test procedures, material specs)
- Interfaces with electronics manufacturer to move product into production.
- Works with procurement to obtain quotes and qualify suppliers, and to approve components per the FPA process
- Prepares reports and presentations for customers both internal/external

Previous Experience/Skill Requirements

- Design of inverter systems for Brushless Permanent Magnet, Induction and / or Switched Reluctance motors
- Electrolytic bus capacitor life expectancy calculation
- Precision analog design
- Low voltage power supply design / magnetic design
- EMC / EMI testing and mitigation
- Thermal design / simulation
- Production test specification
- PCB layout direction and review
- Project management and/or previous experience working with cross-functional teams
- Microsoft Office Software (Word, Excel, PowerPoint, with MS Project a plus).
- Proven Communication and Presentation skills.

Educational Requirements

- BS Electrical Engineering, MS Preferred
- 5-7 Years work experience

Please contact humanresources@nidec-motor.com