



# ION Saint Louis



FALL 2011

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From the editor:

First of all, I would like to thank everyone that contributed to this edition of the IEEE St. Louis Section Newsletter. As usual, the newsletter contains a breath of news and announcements related to our Section.

Second, I am pleased and honored to announce that I have been nominated to the post of Section Secretary for the coming year. Besides being the new Secretary, I will also continue being your newsletter editor. Please keep emailing me any articles of news, your and your colleagues achievements, and, any post or planned events, to [Prakash.shahi@nidec-motor.com](mailto:Prakash.shahi@nidec-motor.com)

Over the next year, our Section website will be migrating from the current site to the Wordpress hosting service. I will be posting more details as available in the upcoming newsletter.

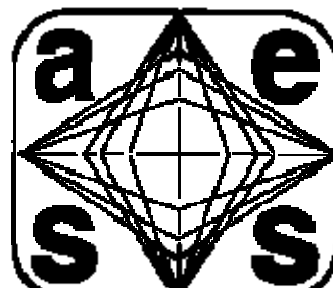
Lastly, please visit <http://ewh.ieee.org/r5/stlouis> to view past issues of newsletter.

**Prakash B Shahi**

**Nidec Motor Corporation**

### Society List

**IEEE Education Society**



## Chair's Column

In August, a very large event took place in San Francisco that helps to shape the near future of IEEE. It was the triennial Sections Congress. This is an event that allows the grassroots to set forth key decisions that are adopted by IEEE. Our Section's Representative was Dinesh Hiripitiyage. Jim Leonard of our Section was also in attendance and his trip report is included in this newsletter. Quoting from his report, the following are the top 5 recommendations:



1. IEEE to develop a comprehensive long-term strategy to increase the number of next generation youth pursuing science and engineering careers.
2. As members maintain their IEEE membership over their years, IEEE must reward them for their loyalty. Rewards ought to be tangible and useful and can be done simply and inexpensively.
3. IEEE membership (including e-Membership) should include a Society membership as part of the basic membership fee.
4. Increased support to students in technical activities with grants to attend conferences and organization of technical competitions.
5. To encourage interest in pre-university students in engineering careers, IEEE to publish a subscription periodical (paper or electronic) targeted to high school students that highlights engineering activities of interest to those students. The periodical should also have articles promoting the benefits of an engineering career and what the students can do in college to get involved with IEEE.

In short order, the IEEE staff and senior leadership will begin implementing these and other recommendations that can be found at <http://www.ieee.org>.

\*\*\*\*\*

Congratulations to Prakash Shahi who was nominated as the Section's 2012 Secretary. In 4 short years, Prakash will be Chair of the Section. Prakash is currently responsible for putting together our quarterly newsletter, ION. He works as a Chief Engineer at Nidec Motor Corporation and is also a Senior Member of IEEE.

\*\*\*\*\*

The end of the year is always a busy time for the Section. Firstly, the annual Black Box competition among the Student branches will be held at Washington University, the winning school from the previous year. This event is typically held on a Saturday in November. If you would like to volunteer to be one of the judges, please email Dr. Paul Min at [psm@seas.wustl.edu](mailto:psm@seas.wustl.edu).

Secondly, the annual Christmas Social and Awards Presentation will be held this December at the Washington University campus. Please look for the date and time to be announced soon.

Respectfully submitted,  
Bob Becnel, P.E.  
Chair, Saint Louis Section  
Email: [bob@becnel.com](mailto:bob@becnel.com)

## SECTION NEWS

### IEEE Section Congress 2011: Empowering Members to Create the Future

The Sections Congress 2011, held this year in San Francisco, was a very successful event and was the largest Congress attended to date. The St. Louis Section delegate attending the Congress was Dinesh Hiripitiyage.

The following is a trip report from Jim Leonard, Fellow of the IEEE.

Delegates from IEEE Sections worldwide met in San Francisco on 19-22 August 2011 to provide a grassroots list of recommendations to the IEEE Volunteer Leadership for action and implementation. 34 Recommendations were brought forth from the 10 Regions and 344 Sections for consideration and prioritization. There were actually 1133 attendees from 291 of the 344 Sections and 90 Countries were represented. 17% of the attendees were GOLD (Graduates of the Last Decade), our next generation of IEEE Volunteer Leaders.

The Primary Section Delegates voted on the *IEEE Sections Congress 2011 Recommendations* during the Closing Ceremony on Monday, 22 August. The following are the top 5 recommendations:

1. *IEEE to develop a comprehensive long-term strategy to increase the number of next generation youth pursuing science and engineering careers.*
2. *As members maintain their IEEE membership over their years, IEEE must reward them for their loyalty. Rewards ought to be tangible and useful and can be done simply and inexpensively. Create Global Fidelity Programs including: (a) Continue membership Recognition 5-10-15-20 years of membership (b) Bonus for specific Benefits (e.g., reduced fee, IEEE merchandise, etc).*
3. *IEEE membership (including e-Membership) should include a Society membership as part of the basic membership fee.*
4. *Increased support to students in technical activities with grants to attend conferences and organization of technical competitions.*
5. *To encourage interest in pre-university students in engineering careers, IEEE to publish a subscription periodical (paper or electronic) targeted to high school students that highlights engineering activities of interest to those students. The periodical should also have articles promoting the benefits of an engineering career and what the students can do in college to get involved with IEEE.*

The Aerospace & Electronics Systems Society (AESS) has a vested interest in Recommendations #1, #3, and #4. AESS has both Student and GOLD members of the governing body of the society. And, if recommendation are



approved (I believe the IEEE volunteers are already working on this one), AESS will be providing an electronic membership for selection. AESS is currently performing #4 thru organizations of technical competitions (Student UAV projects). Among the attendees were members of AESS: Ram Gupta, Bob Lyons, and Ron Ogan. Paul Kostek, Past President of AESS, served as the fundraising chair of Sections Congress and is shown receiving recognition for his efforts. Paul is currently a contract engineer working for Boeing. Boeing was a Diamond Sponsor for the event and also sponsored the Partners' Lounge. Brooklyn Alexander, from Boeing Global Staffing, hosted the Partners Lounge and met many of the attendees. Many Boeing/IEEE members also attended including Tim Lee, Bob Robinson, and Jim Leonard, who is the Boeing/IEEE Company Focal.

Paul is currently a contract engineer working for Boeing. Boeing was a Diamond Sponsor for the event and also sponsored the Partners' Lounge. Brooklyn Alexander, from Boeing Global Staffing, hosted the Partners Lounge and met many of the attendees. Many Boeing/IEEE members also attended including Tim Lee, Bob Robinson, and Jim Leonard, who is the Boeing/IEEE Company Focal.

## Section News

### JIM LEONARD GARNERS 2011 IEEE/AESS PIONEER AWARD



Jim Leonard has been selected to receive the Prestigious IEEE Aerospace & Electronic Systems Society (AESS) Pioneer Award for 2011. He is being recognized for his pioneering contributions and accomplishments in the area “For Pioneering Work in the Field of Aircraft/Missile Launch systems”. Jim is a Fellow of the IEEE.

Jim is currently a Senior Technical Fellow at Boeing in St. Charles, Missouri, where he has been employed for 49 years. Recently the U.S. Navy/Boeing Harpoon Missile Program celebrated its 40<sup>th</sup> Anniversary at the City Conference Center. Jim was on the proposal team for Harpoon and has performed aircraft/missile integration for the original version of Harpoon followed by many variants (Block IC, Block ID, Block II, SLAM and SLAM-ER). He is currently investigating foreign applications for aircraft such as the F-16, P-3C, and CP-140. Harpoon has been integrated on the U.S. Navy P-3B, P-3C, A-6E, A-7, S-3B, F/A-18 and USAF B-52.

The Harpoon missile is the common thread for aircraft integration. Each aircraft launch system is peculiar to that aircraft type. Some are fully integrated systems. Some are partially integrated. And some have dedicated Harpoon launch system avionics. P-3C Harpoon Aircraft Command and Launch Control Set (P-3C/HA CLCS) was first introduced into the U.S. Navy Fleet in 1979. Over 100 P-3C/HACLCS are still in use today, both in the USA and internationally.



The picture of the plaque and the following excerpts are from the AESS Awards website:

*“The Pioneer Award has been given annually since 1949 to an individual or team for “contributions significant to bringing into being systems that are still in existence today. These systems fall within the specific areas of interest to the society, that is, electronic or aerospace systems. The contributions for which the award is bestowed are to have been made at least twenty (20) years prior to the year of the award, to ensure proper historical perspective”.*

***Congratulations Jim!***

## Section News

### Section History; Redux

By Dr. Hardy Pottinger

Did you know that the first chairman of the IEEE St. Louis Section in 1903 was Winder E Goldsborough, or that it was called a branch, or that the organization back then was the AIEE, or that Goldsborough was the director of the Electricity Department of the World's Fair, or that he was also a professor at Purdue at the time? No? Then read on.

At the recent Sections Congress I attended a session presented by the IEEE History Center and recalled an effort made by Chairman Bill Schallert in 1996 to compile our history in time for our 100th anniversary. Unfortunately Bill passed away before completing his work and his generous contribution was lost. I decided to restart his project and put my findings on the History Center's Global History Network (GHN). The GHN is on the web at [www.ieeeghn.org](http://www.ieeeghn.org) and serves as a repository of all things pertaining to the history of IEEE and its members, including section history.

We're an old section, over 100 years old, and one of the first, so this is going to be a long project and not an easy one. I welcome all the help I can get! In particular, I am looking for information on student branch history, names of past chairmen prior to 1994, old copies of the Mighty Mho and a story on why the name was changed, any newsletters prior to the Mighty Mho (were there any? when was MM started?), history of the parent organizations AIEE and IRE, etc, etc.

If you would like to help, or have an old story or material to contribute, suggestions or comments, please contact Dr. Hardy Pottinger at [h.pottinger@ieee.org](mailto:h.pottinger@ieee.org).

### FIRST Robotics Coalition

By George Tomazi, PE

The FIRST Robotics Coalition is a network of area high schools, that is seeking to raise the interest in robotics to a level that can support a regional competition in this area. This will raise the interest and competence in math, engineering and science among our high school students. Thus far there are 5 high committed robotics teams - Gateway Tech, Hazelwood Central, Hazelwood West, University City, and the Science Center. Other schools that wish to move ahead, but need mentoring help, are Barat Academy, O'Fallon S.D., Rockwood S.D., DeSmet, Priory, and Parkway S.D.

The first priority is to obtain mentors-engineering, programming and guidance - to develop either/and a small robot (18"x18") or a large robot (36"x36"). This is a late afternoon meeting once a week until nearing a completion. Then things can be intense for about 6 weeks. Volunteer mentors are the first priority. As teams become more functional, the next priority will likely be financial support but I do not know enough about this to offer any meaningful information at this time.

It would be deeply appreciated if you would be interested in becoming a mentor. I can be reached by telephone at 314/741-1635 or via email at [gltomazi@charter.net](mailto:gltomazi@charter.net).



# Electronics, Engineering, Electrical & Manufacturing Show 2012

[www.ERASTL.org](http://www.ERASTL.org)

Our next show is scheduled for Wednesday, April 4th, 2012 at the St. Charles Convention Center. Attendee and Exhibitor registration will be available via the ERA website as the event date draws closer.

If you have suggestions for training seminars, exhibits or show content please let us know.....

*For exhibitor and attendee Information and any suggestions , please contact:*

**Bob Dillon**  
171 Emerald Green Court  
Creve Coeur, MO 63141-7555  
Tel: 314-432-4983  
Fax: 314-432-5954  
Email: [bdillon@erastl.org](mailto:bdillon@erastl.org)

## 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](http://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

### Last Call for IEEE MGA Awards Nominations: Deadline 15 October

You can help recognize the efforts of outstanding volunteers by nominating individuals for one of the prestigious [IEEE Member and Geographic Activities \(MGA\) Awards](#). Each award has a unique mission and criteria and offers the opportunity to honor distinguished colleagues, inspiring teachers, and corporate leaders.

If you know someone who has made substantial regional contributions through innovative projects, exemplary leadership, service, or by fulfilling the goals of transnational activities, please consider nominating them for one of the following awards:

[MGA Larry K. Wilson Transnational Award](#)

[MGA Innovation Award](#)

[MGA Leadership Award](#)

[MGA Achievement Award](#)

[MGA GOLD \(Graduates of the Last Decade\) Achievement Award](#)

Earlier this year, the MGA Awards and Recognition Committee and the IEEE Region Awards Chairs worked to pilot the [MGA Outstanding Section Award](#) submission process through an online portal. Due to the success of this pilot, the portal is also being used for the submission of the above MGA awards. Nominators can submit nominations, endorsers can upload endorsement letters, and reviewers can review and rank nominations, all within the online system.

**Please visit the MGA Award Nomination web page to [review the nominator guidelines and eligibility requirements](#), reference the [step-by-step submittal instructions](#), and [link to the portal for nominations](#).**

**The deadline for nominations is 15 October 2011.**

Please note: As this is still a pilot program, all feedback about the new online portal is welcome, so that we may continually work to improve the IEEE MGA Awards process. Please [email questions and/or feedback to MGA Awards](#). Visit the link for details: [http://www.ieee.org/societies\\_communities/geo\\_activities/awards/index.html](http://www.ieee.org/societies_communities/geo_activities/awards/index.html)

## IEEE Announcement

### IEEE - USA offering RISK MANAGEMENT Seminar Series

For details/registration, visit: <http://www.ieeeusa.org/careers/webinars/2011/Risk-Management.html>

Recent events have highlighted the importance of risks. Modern systems are becoming more complex and the economic, safety and other consequences of a system failure more serious. Managing the risks of disruptive events is becoming a critical focus for business and society. For example, the need for security to mitigate electric reliability risks has been formalized as a regulatory requirement known as NERC Critical Infrastructure Protection (NERC CIP). With the adoption of the Smart Grid, electric utilities have more exposure to risks. Ignoring risks because they are improbable and not worth analysis has proven to be highly risky in itself. Volatility, uncertainty, complexity, and ambiguity ('VUCA') factors drive the consideration of risk. US Statutes and Federal regulations recognize this risk and mandate critical infrastructure protection (CIP) which is driven by risk management.

Risk management is much more than identifying and mitigating technical and operational risks; it can be used to arrive at better solutions and decisions which reduces time and costs. Success comes from managing risks associated with technology adoption and implementation, a project, business decisions, engineering economics, interpersonal interactions, acquiring skills, and career decisions to name a few. IEEE - USA has organized a 6 - part monthly 1 - hour web seminar series where you can learn about two of the most critical life skills that engineers and operations professionals need today: 1. Risk-based problem-solving and 2. Risk based, decision-making under uncertainty. The series will focus on the application of risk management frameworks, standards and practices in engineering with a specific focus on cyber security, public safety and critical infrastructure protection (CIP). We have recruited a set of subject matter experts who will teach the seminars. Dan Skaar, CEO of the Midwest Reliability Organization, will kick off the series on 20 July with "Cyber Security in the Electric Utility Sector".

Participants will secure the following benefits from the risk management online seminars:

- An understanding of risk management standards, practices, concepts, and tools.
- How risk management can be used to arrive at better solutions and decisions.
- Risk applications in software, controls, security, project management and quality.
- Risk management's role to reduce vulnerabilities and increase security in critical infrastructure including the electric power grid, cybersecurity, IT, the Internet and more.

Cost is \$19 per seminar (\$89 for the series) for IEEE members (non-member rate \$38/\$189).

Participants will have access to a host of online risk resources, including articles in IEEE-USA's Today's Engineer, webinar replay, risk articles, blogs, comment/discussion with risk experts, and much more.

<b>Date/Time (ET)</b>	<b>Topic</b>	<b>Speaker</b>
20-Jul; 2-3 PM	Cyber Security in the Electric Utility Sector	Dan Skaar, Midwest Reliability Organization
17-Aug; 12-1 PM	Application of Risk Management During Project Definitions	Paul Kostek, Air Direct Solutions
21-Sep; 2-3 PM	Risk Management Standards and Decision-making	Ed Perkins
19-Oct; 1-2 PM	Enterprise Risk Management and Information System	Peter Malpass, FAA
16-Nov; 2-3 PM	Lean/Six Sigma and Risk Reduction	Adina Suci, Adav LLC
14-Dec; 1-2 PM	Risk-based Metrics for Software System Design, Development and Test	Jeffrey Voas, NIST

#### TO SIGN - UP GO TO

<http://www.ieeeusa.org/careers/webinars/2011/Risk - Management.html>

## IEEE Information

### 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

### 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](mailto:socialmediahelp@ieee.org) for more information.

## 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:

- practical handbooks,
- introductory and advanced texts,
- reference works, and
- professional books.

Newer eBooks will be added every year.

### Finding IEEE eBook Classics

1. Log in to [IEEE Xplore](#) using your IEEE Member Web account.
2. Under the "Browse" heading in the left-hand navigation, click on "Books".
3. Select the "Classics" tab from the top of the page. Under this tab you will find a listing of all the free titles.

-- or --

1. Log in to [IEEE Xplore](#) using your IEEE Member Web account.
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.

### IEEE memberNet– The IEEE Member Directory Online

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.

- Exclusive benefit of IEEE membership, at no additional cost.
- 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.

Visit your IEEE account and look for memberNet module for more information.

## Career Opportunity

# Laramore, Douglass and Popham

## *Consulting Engineers*

### LDP is hiring!

Laramore, Douglass and Popham, a 75 year old power engineering consulting firm located in Chicago & St. Louis, is currently looking for a senior substation engineer for our St. Louis office. Experience should include design at 69 kV and above and should encompass all phases of substation design.

Learn more about LDP by visiting [www.ldpgroup.com](http://www.ldpgroup.com), or send your resume to [tony.zamberlan@ldpgroup.com](mailto:tony.zamberlan@ldpgroup.com).



The Preston M. Green Department of Electrical and Systems Engineering at Washington University has several openings.

Tenure-track full-time Assistant Professor for both research and teaching starting in September 2012: The details are found at <http://ese.wustl.edu/aboutthedepartment/Pages/faculty-openings.aspx>.

Full-time Lecturer for teaching courses in electrical and systems engineering starting in January 2012: The details are not yet ready but will be soon found at <http://ese.wustl.edu/aboutthedepartment/Pages/faculty-openings.aspx>.

Part-time Adjunct Instructors for teaching courses: Our needs for adjuncts generally vary from semester to semester covering different topics in electrical and systems engineering. For January 2012, we anticipate needs for courses in robotics, robotics lab, nonlinear optimization and engineering math. The details are not yet ready but will be soon found at <http://ese.wustl.edu/aboutthedepartment/Pages/faculty-openings.aspx>.