



# ION Saint Louis

SPRING 2014



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Komal Sinha, Maura Wilson, Katie Foster, and Jie'an Lou

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## **Section Website:**

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## **Introducing the New ION Editors**

Meet the new editorial staff! Pictured from left to right:

**Katie Foster**, junior in Electrical Engineering at SLU and St. Louis Section Student Representative,

**Komal Sinha**, sophomore in Computer Engineering,

**Maura Wilson**, freshman in Electrical Engineering,

**Jie'an Lou**, sophomore in Electrical Engineering.



# Chair's Column

## Saint Louis Section of IEEE

### Chair's Column, April 1, 2014

Welcome to 2014. Wow! Where has 25% of the year gone already? We have an exciting year planned for the Saint Louis Section. The officers this year that will be operating the Section are listed below. Please contact one of these individuals if you have questions or suggestion. You can always send an email to [sec.stlouis@ieee.org](mailto:sec.stlouis@ieee.org) which is an alias for all of the officers.

Chair – Paul Min

Past Chair – Dinesh Hiripitiyage

Vice Chair – Prakash Shahi

Treasurer – Jonathan “Johnny” Steenbergen

Secretary – Yoelit Hiebert

While the early part of the year often is a “planning” period for the Section, we have several new things we’d like to try this year and I’m really thrilled that we can role these out. Please bear with us, though, as we are continuously increasing value for our members:

Plans for an Entrepreneur Workshop. I am very passionate and experienced in the entrepreneur efforts within the St. Louis region. Having lead two successful startups in my career, I want to convey experiences with other members through the workshop.

A spring BBQ with a focus on students. After the long, cold winter we’ve had, I think It was necessary to allow the students to get a little *crazy* before finals. The BBQ will be open to all members and will be on a Saturday afternoon later in April on the Washington University campus.

The presentation of 1 or 2 plant tours. One of our newest leaders of the Section and evangelist of what IEEE can do for professionals, Dr. Prasenjit Shil is coordinating this effort.

Please look for more details through the website or E-notice distributions.

# Chair's Column

A new young and inspirational member, Dan Kim, approached our Section last year to present some work that he has been doing for IEEE-USA in lobbying the United States Congress in causes that are important to engineers, scientists, technologists and IEEE members. Dan has been a long time participant in the Congressional Visits Day in Washington D.C. He has done this volunteer work on his own nickel. This involvement goes back to when he was with a Section in Iowa.

I am grateful for Dan's involvement and his passion was recognized by last year's award committee which issued him the Outstanding Young Engineer of the Saint Louis Section Award. This year we decided to fund his travel and encourage him to attend again, which he dutifully agreed. Dan will be traveling to DC in late March and will report on his activities at a future meeting. It is young members like Dan that originally prompted me to enter teaching.

More information on the CVD available at <http://www.ieeeusa.org/policy/cvd>.

Every 3 years, IEEE convenes a Triennial Congress representing all Sections through the world. This year's event is held in Amsterdam. The purpose of the event is to facilitate issues and enact them from the grassroots membership level up rather than the typical top-down approach. Many of the excellent policies that have evolved within IEEE regarding student and professional members have originated from a Congress.

This year, I have asked Johnny Steenbergen to represent the Section as our "Primary Section Delegate" (PSD). In keeping with Section tradition, I am selecting a junior ExCom member so that when he/she becomes Chair, the training and experience from the Congress can be applied. In 2011, Diniesh Hiripitiyage was the PSD; and 2008, Bob Becnel was the PSD.

I believe Johnny is the right person to lead this effort and will be available to any member that wishes to contact him on issues important to promote on behalf of the Section. Please call or e-mail Johnny to express any issues of importance (636) 293-1540 or [jwsteenbergen@gmail.com](mailto:jwsteenbergen@gmail.com).

# Chair's Column

Besides baseball, final exams and warmer weather, spring time also welcomes the Annual Greentech Conference and Region 5 Committee Meeting. This year's Conference will be hosted by the Corpus Christie Section in early April.

The Saint Louis Section is a large Section but is one of 26 in the Region. So the annual event is a great time network and share ideas with fellow members, students and professionals across the Region (Colorado to the west, Texas to the south and Missouri on the eastern edge of the boundary). The Conference features some of the more prominent speakers in the "green" energy industry and academia field. The Region 5 Committee will conclude the 4 day event with 2 days of governance meetings.

Since my teaching schedule prevents me from attending, Dr. Prasenjit Shil will represent the Section as the "Primary Section Delegate". Since Dr. Shil is employed in the energy field, he will find the program very informative.

In conclusion, the officers and I are extremely grateful that several of our student members at St. Louis University agreed to publish the ION Newsletter this year. I want to thank Komal, Maura, and Jie'an, in assisting Katie Foster in leading this effort.

You can meet our new ION staff and many other students across the Section at the BBQ later this month. I look forward to meeting you.

Respectfully submitted,

Dr. Paul Min

Chair, Saint Louis Section

Email: [psm@seas.wustl.edu](mailto:psm@seas.wustl.edu)

# Upcoming Events

## Things to look forward to this month!

### SIUE- IEEE BBQ

April 12

### "Job Seeker Webinar"

April 23, 1:00 EST

### WashU-IEEE BBQ

April 26, 12pm-5

### University of Missouri-Student Poster Contest

### & Research Seminar

April 30, Speaker at 3pm

More details  
follow in  
newsletter!

# Announcements

## Thank You St. Louis Mensa!

St. Louis Mensa has made a donation to the Youth Learning Center of St. Louis on behalf of IEEE. The Youth Learning Center works to provide underprivileged children with hands-on science, technology and mathematics education and experience. Their generous donation will further benefit the children in learning about the importance of technology and science.



# Announcements

## 2014 CVD Registration is Open

IEEE-USA's annual Congressional Visits Day (CVD) will be held this year on March 25 & 26 in Washington, DC. Any and all IEEE members who are concerned about declining federal investments in basic research, our national labs and our research universities is encouraged to attend.

The CVD offers concerned IEEE members an opportunity to meet directly with your members of Congress and their staff in Washington. This annual event is a crucial part of IEEE-USA's ongoing efforts to protect federal investments in science and engineering.

These efforts are especially crucial in 2014. After three years of tight federal budgets, Congress is looking for additional programs to cut. Basic research and R&D have so far survived the first few rounds of budget cuts with only modest reductions. But that may be about to change. Programs that the public doesn't know much about or that can be cut without doing immediate damage to too many people are prime targets. R&D fits the bill perfectly. While R&D is vitally important to America's long-term economic prosperity, the fact is, should Congress cut the programs, the country won't feel the impact of these cuts for a few years.

*And how many Americans know we have national labs, let alone how they contribute to the country?*

If IEEE members want Congress to protect the basic research and R&D budgets, we need to speak up and make sure Congress knows how valuable these programs are to us and our country.

There is simply no better way to get a legislator's attention than to have a voter come to Washington and ask for the legislator's support. Especially in an election year.

**All IEEE members are welcome and encouraged to attend this year's CVD.** To join your colleagues from across the country, go here to learn more and to register: <http://www.ieeeusa.org/policy/cvd/>

If you would like to speak with your members of Congress, but can't come to Washington, there may be opportunities to hold meetings in your local area. Please contact IEEE-USA staffer Russ Harrison to find out, or if you have other questions about this year's CVD. Russ can be reached at [r.t.harrison@ieee.org](mailto:r.t.harrison@ieee.org) or (202) 530-8326.

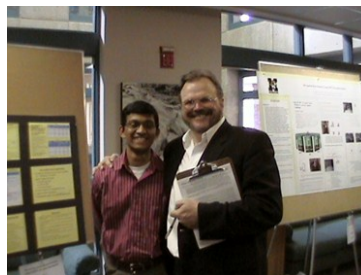
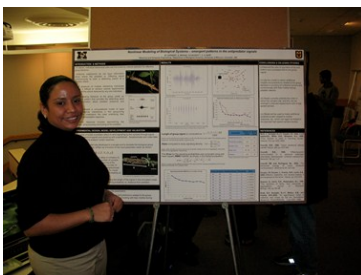
# Student Branch News

## News and Events from the University of Missouri Chapter of the IEEE CIS

Columbia, MO

The University of Missouri Chapter of the IEEE Computational Intelligence Society is holding its 8th annual Student Poster contest on **April 30, 2014**. The contest is held annually with both undergraduate and graduate categories. Cash prizes are given to 1st, 2nd, and 3rd place winners in both graduate categories. Also, lunch is provided for all participants in the poster contest! The contest is sponsored by the University of Missouri College of Engineering.

Along with the festivities of the Student Poster Competition, there will be a research seminar. Our guest speaker for the seminar is Dr. Pascal Matsakis from the University of Guelph in Ontario Canada. He will be presenting the talk entitled "A Relative Position for Polyhedra" at 3pm in Ketcham Auditorum in Laferre Hall at the University of Missouri. Dr. Matasakis' biography and seminar abstract are included below. The seminar is sponsored by the Department of Electrical and Computer Engineering at the University of Missouri.



Photos from previous Mizzou CIS Student Poster Contests

# Student Branch News

## Southern Illinois University – Edwardsville (SIUe) IEEE Student Chapter

Our chapter has been busy past year with tours, lunches, and competitions! Last semester, several of our members participated in the St. Louis IEEE Blackbox Competition at St. Louis University on November 9, 2013. In addition, we had two teams that placed in the top 25% of the world at the IEEE Xtreme 24-hour programming competition. This year, we have toured the Anheuser-Busch (AB-InBev) and Basler Electric facilities.

This semester, the SIUe IEEE has been practicing weekly for the IEEE Region 5 Competition in Corpus Christi, TX, with teams competing in all three competitions: hardware, robotics and ethics. The ethics competition team consists of junior Samuel Baker and senior Daniel Bugger; our hardware team is spearheaded by seniors Matthew Boone (SIUe IEEE Treasurer) and Austin Cox. Finally, seniors Mark Ostrom (SIUe IEEE President), Clayton Faber, Craig Moore and Erik Neeley will be our robotics competition participants.

Last, but not least, we would like to invite the St. Louis region IEEE student chapters to a BBQ on **April 12 at SIUe**. Details are forthcoming. For more details, please send us an email at [ieee.siu@gmail.com](mailto:ieee.siu@gmail.com).

Adam Chkautovich  
SIUe IEEE Secretary

## Saint Louis University (SLU) IEEE Student Chapter

Saint Louis University Student Branch would like to introduce our Fall 2014-Spring 2015 executive board:

**Chair-** Katie Foster

**Vice President-** Sara Fasching

**Treasurer-** Mark Wisnewski

**Secretary-** Maura Wilson

**Event Coordinator-** Jackie Decker

**Outreach Coordinator-** Komal Sinha

Our chapter has a lot in store for the coming school year! We are continuing the outreach program, Billiken Bots, for students in the St. Louis area in junior high and high school that we started last year and was a great success. We look forward to participating in the annual Black Box competition, as we have placed in the top three in the last few years. We will be putting together teams for the Extreme Programming competition for the first year as well. As in the past years we will start our planning for the IEEE Region 5 Competition with an ethics, hardware and robotics team.

We look forward to the start of a great year in the fall! For any questions or inquires send us an email at [ieeeparks@gmail.com](mailto:ieeeparks@gmail.com)!

SLU IEEE Executive Board



# Events

Check out our pictures from the Winter Social 2013!



# Advertisements

## Looking for Job Opportunities?

Are you looking for a job and have an interest in education? The **Preston M. Green Department of Electrical and Systems Engineering at Washington University, St. Louis** has two positions they are looking to fill for this next school year starting in September of 2014. The first is a full-time faculty member position as a Lecturer typically teaching two courses a semester. The second position is a part-time faculty position as an Adjunct Instructor, which typically consists of teaching one course per semester. Further details about the positions as well as the applications can be found at <http://ese.wustl.edu/aboutthedeptment/Pages/faculty-openings.aspx>.

## Answers to Your Questions About the Job Search!

IEEE Job Site is offering a solution for those who are looking for a job and are becoming discouraged in the job search. Tune into the 45-minute webinar presentation at **1:00 pm EST on April 23, 2014** titled **“Job Seeker or Opportunity Magnet?”** The webinar is free of cost and will provide tips to stick out from the other candidates, how to be efficient in the job search, as well as other helpful strategies. Those who attend will be given a free download of the book, **“Purple Squirrel: Stand Out, Land Interviews, and master the Modern Job Market”**, by presenter Michael Junge.

For more details, visit [http://careers.ieee.org/jump/webinar\\_magnet.php](http://careers.ieee.org/jump/webinar_magnet.php).

## Transformer Design Engineer

We are a 45 year old Manufacturing Company with stability and longevity in the market place and are currently looking for a full time, experienced Transformer Design Engineer. This position requires a solid understanding of electrical fundamentals and knowledge of magnetic components used in the generation, delivery and consumption of electrical energy. Responsibilities include creating a product that fulfills a company or client's strategic goals while integrating the needs of marketing, sales and manufacturing departments. The right candidate will oversee research and design teams, lead testing procedures and draft specifications for manufacturing. They direct the creation of models or samples and fine-tune designs until they are ready for production.

### Required Skills

- ⇒ Minimum 2 years' experience preferred in electrical design of power, instrument, distribution, or other transformers, preferably in a manufacturing environment
- ⇒ Knowledge of electrical apparatus and materials used in the electrical industry
- ⇒ Strong leadership, communication and organizational skills
- ⇒ Capable of meeting aggressive project goals and deadlines
- Works well with others, especially in a "team" environment

### Education and Preferred Skills

- ⇒ Bachelor of Science in Electrical Engineering required, or 2+ years in electrical design/product development
- ⇒ Instrument transformer experience preferred
- ⇒ Computer literacy Microsoft Office, AutoCAD, Solidworks, or other 2-D/3-D CAD systems
- ⇒ Ability to integrate innovative ideas into finished products

Our company offers competitive salaries based on experience, as well as an excellent benefit package which includes health, dental, vision, life, LTD, STD, 401K, profit sharing, educational assistance, vacation, and 8+ paid holidays to all full time personnel. If you have the required skills as well as the desire to work for a great company please send your resume with your salary requirements in confidence to the following address post marked no later than 04/15/2014:

Attn: Human Resource

Meramec Electrical Products Co., Inc.

#1 Industrial Drive

Cuba, MO 65453

You may fax your resume and salary requirements to 573-885-6767 or email to [wnye@meramec-electrical.com](mailto:wnye@meramec-electrical.com)

We are an Equal Opportunity Employer!



## IEEE AUTOTEST 2014† - CALL FOR PAPERS

IEEE AUTOTEST (formerly known as AUTOTESTCON) is an annual technical interchange meeting sponsored by the Institute of Electrical and Electronic Engineers (IEEE). This year it celebrates 50 years in which it has gathered the military/aerospace automatic test industry together to share new technologies, discuss innovative applications, and exhibit products and services. IEEE AUTOTEST 2014 will be in St. Louis, Missouri, September 15–18, 2014.

This is a series of technical meetings whose content will be determined by the interests of those participants submitting for publication and presenting a high quality technical paper, or organizing a technical session oriented toward an appropriate topic dealing with system readiness, in general, and automatic test technology, in particular. Technical papers are now being solicited, as are proposals for technical sessions, addressing topics such as:

Artificial Intelligence in Test, ATS/TPS Management, BIT/BIST, Closed-Loop Diagnostics, Commercialization of Military Maintenance, Condition-Based Maintenance, Data Acquisition, Diagnostic Maturation, Design-For-Test, Diagnostic Strategies, Fault Tolerant Systems, Future Logistics Approaches, Information Frameworks, Interoperable Test Systems, Maintenance Architectures, Measurement Science and Uncertainty, MEMS Technology, Next Generation Test Systems, Prognostics and Health Management, Remote Diagnostics, Safety Issues, Sensor Technology, Synthetic Instruments, Test Generation, Test Requirements, Test Standards, TPS Transportability, Vehicle Health Management.

Authors are asked to submit a 500-word abstract for a proposed paper related to one of the topics above. The abstract should identify the problem to be solved, a summary of key results, and a discussion of the main contributions. Authors of accepted abstracts will then be invited to submit a full paper, which should be approximately eight to ten pages in length and identify related literature in the field. Per IEEE regulations, all submitted papers will undergo a peer review for technical content and topical suitability. Session proposals should include proposed papers/presentations and speakers. The closing date for receipt of session proposals and paper abstracts is April 15, 2014. Papers and abstracts should be submitted in electronic form using EDAS at <http://www.edas.info>. Please reference the website at [www.ieee-autotest.com](http://www.ieee-autotest.com) for comprehensive submission instructions.

We will conduct a student paper contest for both graduate and undergraduate student papers within the topic scope. Cash awards of \$500 will be presented for the best papers in both categories plus cash awards of \$400 for 2nd place papers in both categories. Please pay careful attention to all instructions for manuscript preparation and make sure the paper is identified as either a Graduate or Undergraduate Student Paper when submitting the final paper. In addition, student travel subsidies ranging from \$300 to \$1000 depending on student location will be provided to as many students as possible. Students must attend the meeting and present their paper in order to receive a travel subsidy or best paper award.

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To our Military / Department of Defense Community Members,

The Institute of Electrical and Electronic Engineers (IEEE) AUTOTEST (formerly known as AUTOTESTCON) will be celebrating its 50th anniversary this year. In celebration of this event, AUTOTEST is returning to St. Louis, Missouri where it all began. The theme this year is "Gateway to the next 50 years of Automated Test". This is an opportunity for you to experience the newest test equipment technologies and converse with testing subject matter experts all in one place.

Some of the most innovative companies in the Automatic Test Equipment (ATE) industry will be in attendance to provide demonstrations of today's products as well as technical insight into future instrumentation. A couple of our Gold Sponsors are planning; The Boeing Company will feature the latest in TPS Transportability methodologies, Netcentric Operations & Information Assurance, innovations in a common ATE architecture design and new concepts in Vehicle Health Management. Northrop Grumman will be chairing a number of IEEE sessions as well as presenting various technical papers, and brings extensive common tester, synthetic RF and electro-optical test expertise as well as unique insights into specific fielded and future military hardware to the AUTOTEST attendees.

This year's technical program will focus on Artificial Intelligence in Test, ATS/TPS Management, BIT/BIST, Closed-Loop Diagnostics, Commercialization of Military Maintenance, Condition-Based Maintenance, Data Acquisition, Diagnostic Maturation, Design-For-Test, Diagnostic Strategies, Fault Tolerant Systems, Future Logistics Approaches, Information Frameworks, Interoperable Test Systems, Maintenance Architectures, Measurement Science and Uncertainty, MEMS Technology, Next Generation Test Systems, Prognostics and Health Management, Remote Diagnostics, Safety Issues, Sensor Technology, Synthetic Instruments, Test Generation, Test Requirements, Test Standards, TPS Transportability, Vehicle Health Management.

The current schedule of events is as follows:

| AUTOTEST 2014 Master Schedule                                       |                    |                    |                               |   |   |  |
|---|--------------------|--------------------|-------------------------------|---|---|--|
| Activity / Day  |                    | Sunday<br>14-Sep   | Monday<br>15-Sep              | Tuesday<br>16-Sep                       | Wednesday<br>17-Sep                     | Thursday<br>18-Sep                       |
| Exhibit Hall  | Exhibitor Set-Up   | 1:00 PM - 10:00 PM | 8:00 AM - 10:00 PM            |   |   |  |
|   | Exhibitor Access   | 1:00 PM - 10:00 PM | 8:00 AM - 10:00 PM            | 7:00 AM - 5:00 PM                       | 8:00 AM - 5:00 PM                       | 8:00 AM - 10:00 PM                       |
|   | VIP Tour           |                    |                               | 11:45 AM                                |   |  |
|   | Open to Attendees  |                    |                               | 10:45 AM - 5:00 PM                      | 9:00 AM - 5:00 PM                       | 9:00 AM - 12:00 N                        |
|   | Exhibitor Move Out |                    |                               |   |   | 12:00 N - 10:00 PM                       |
| Registration (Washington Street Lobby)                              |                    | 2:00 PM - 5:00 PM  | 7:00 AM - 6:00 PM             | 7:00 AM - 6:00 PM                       | 7:00 AM - 5:00 PM                       | 8:00 AM - 11:00 N                        |
| Keynote and Plenary Sessions<br>(location TBD)                      |                    |                    |                               | 8:30 AM - 11:45 AM                      |   |  |
| Product Displays and Demonstrations<br>(America Center Halls 1 & 2) |                    |                    |                               | 10:45 AM - 5:00 PM                      | 9:00 AM - 5:00 PM                       | 9:00 AM - 12:00 N                        |
| Technical Program<br>(America Center Rooms 101 - 104)               |                    |                    | 8:00 AM - 5:00 PM<br>Seminars | 3:30 PM - 5:00 PM<br>Technical Sessions | 8:00 AM - 5:00 PM<br>Technical Sessions | 8:00 AM - 11:30 AM<br>Technical Sessions |

All activities for AUTOTEST 2014 will be held at the America Center in downtown St. Louis or at the Renaissance Hotel. Additional information can be obtained from the AUTOTEST website located at <http://www.ieee-autotest.com>. We would like invite you to be a member of one of our panel discussions or if you would like to host a venue whereby you can address many industry ATE suppliers all in one place, please make Dennis Hecht at [dennis.e.hecht@boeing.com](mailto:dennis.e.hecht@boeing.com) aware of your preference. We hope to see you there.

**IEEE****IEEE SAINT LOUIS  
SECTION**

## CALL FOR 2014 SECTION OFFICER

*The Saint Louis Section is proud to announce its Call for adding a new officer to the Executive Committee. In keeping with the tradition of alternating between the academia and the industry, St. Louis Section is seeking nominations, this year, from our members in the academia, for the position of 2014 Section Secretary. St. Louis Section Secretary is a progressive position that will move up annually in to the positions of Treasurer, Vice- Chair and, Chair respectively.*

*Please note that the strength of our Section as well as the entire IEEE organization depends upon its volunteers willingness to sacrifice their time in order to carry out the organizations goals. The volunteers get a chance to work with people from their field of academic and career interest to pursue the goals of promoting IEEE, as well as the St. Louis Section and its valued members.*

*Any interested current members from the academia are requested to submit a brief biography by **June 1<sup>st</sup>, 2014** to the Nominations Committee ([sec.stlouis@ieee.org](mailto:sec.stlouis@ieee.org)). It is customary for the Past Chair to lead the search for a new officer and present a slate for the 2014 ballot. This year, Dinesh Hiripitiyage, will Chair the Nominations Committee.*

**Secretary Duties and Responsibilities:** Principle responsibility of a Section Executive Committee member is to oversee the management of the Section, and in doing so, serve the best interest of the IEEE, its members and the public. As the Section Secretary, you are a key member of the Section Executive Committee.

Section Secretary acts as a gateway between Section members and IEEE, having a leadership role in bringing members' needs to the Executive Committee (ExCom). Part of the role involves having accountability and ownership reporting officer changes, acting as scribe at official meetings, distribute official announcements to members and submit reports to IEEE Member and Geographic Activities (MGA). Besides the duties of record-keeping for the Section, the St. Louis Section Secretary is also the newsletter editor and the webmaster.

The position of Secretary would begin January 1, 2015 with a period of training over the last 3 months of 2014 and a concluding Officer Workshop in December. The expected officer path for the Section, once elected, will be Secretary, Treasurer, Chair-Elect, Chair and Past Chair.