



ION Saint Louis

SUMMER 2015



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IEEE St Louis Section News

Saint Louis Section of IEEE Chair's Column, May 2015

We are in to the fifth month of this year which means the universities will be starting summer session soon. More importantly, lots of our senior student members will be graduating soon and kick starting their engineering career. I want to wish the best to all the graduating engineers.

I want to highlight few of the events our Section has planned so far this year. Our Section sponsored a Student Paper Competition on Feb 14th. I want to thank MST Prof. Bruce McMilin for organizing this competition. The winners of this competition, Justin Hoyt, MST and Charles Meyer, Mizzou, went on to the R5 Paper Competition and were placed 2nd and 3rd in the region.

Prasenjit Shil, Treasurer of the Section, organized a tour of the Ameren Missouri O'Fallon Solar Plant on April 24th. I want to thank Prasenjit and the Ameren for hosting this tour as well as other popular tours in the past year.

As usual, a number of Section members were awarded at the Annual Meeting of the R5 which took place on April 17-19 in New Orleans this year. Congratulations to the following winners:

Yiyu Shi, MST – Outstanding Member

Kelvin Erickson, MST – Engineering Educator

Kyle Harper, Kyle Gassel, MST – 1st Place Circuit Design Competition

Samuel Baker, Daniel Bugger, SIUE – 3rd Place, Ethics Competition

Justin Hoyt, MST – 2nd Place, Paper Competition

Charles Meyer, Mizzou – 3rd Place Paper Competition

Jiean Lou, Frozan Moqsoodi, Mark Wisniewski, SLU – 1st Place Standards Competition

I am extremely happy to be serving as your Section Chair for 2015 and looking forward to meeting all of you at one of our Section events this year.

Thank you,

Prakash B Shahi

Chair, St. Louis Section



IEEE St Louis Section News

IEEE Region 5 Membership Development Report

The membership development report, as of April 2015, was just released for Region 5. As far as the total number of members is concerned, there has had a slight drop of 0.3 % over the past year with the total number of members at 24, 671 as of April. Currently the St. Louis Section is the 5th largest section of region 5 with a total number of 1,721 members, a slight drop from the 1769 members of 2014. Currently, Our section has a renewal rate of 76.0 % for membership. For 2015, the St. Louis section has set a goal of recruiting 350 new members of which we have already gained 217 new members. The membership development goals are a new concept just introduced by IEEE and are uniquely made for each section. The purpose of this is to help Regions and Sections work together to reach a common goal. This also allows Sections to maximize their activity and take ownership at a more local level and see the impacts of these efforts on membership growth. To those new members, we would all like to offer you a warm welcome to IEEE!

Region Snapshot	This Month	'15 vs. '14	% Change
Total Membership	24,671	▼ (73)	-0.3%
Higher-Grade	20,361	▼ (126)	-0.6%
Students	4,310	▲ 53	+1.25%
IEEE Worldwide	345,604	▼ (2,827)	-0.8%

Region 5 Recruitment	% to Goal
South Plains Section	117.5%
Fort Worth Section	114.6%
Panhandle Section	95.2%
Kansas City Section	86.7%
High Plains Section	85.4%
Lafayette Section	82.4%
Ozark Section	81.4%
Beaumont Section	79.4%
Dallas Section	77.8%
New Orleans Section	77.2%
Galveston Bay Section	76.7%
Corpus Christi Section	75.9%
El Paso Section	75.5%
Arkansas Section	75.0%
Central Texas Section	70.5%
Oklahoma City Section	69.0%
Houston Section	68.7%

Retention	Higher Grade	Student	Total % , #	2015 Goal % , #	Top 3 Sections (by retention %)
Region 5	82.2% 18,786	46.4% 1,646	77.3% 20,432	80.7% 21,317	91.6%: Panhandle Section 83.7%: Southwest Missouri 82.5%: Denver Section
IEEE Overall	78.0% 233,522	36.0% 32,060	68.4% 265,582	72.5% 281,672	

Recruitment	Cumulative – Through This Month		Total YoY Chg	2015 Goal YoY Chg	Top 3 Sections (by growth %)
	Higher Grade	Student			
Region 5	722	2,256	2,978 +3.3%	4,086 +8.0%	88.0%: South Plains Sections 46.4%: Fort Worth Section 40.0%: Lafayette Section
IEEE Overall	12,244	52,033	64,277 -2.0%	99,481 +7.8%	

Student Branch News

IEEE SLU Student Branch

This year IEEE Saint Louis University Student Branch strived to improve its opportunities to members, showing the professional connection it offers. We increased the amount of industry related events, bringing speakers and going on tours of various facilities. We held our outreach program, Billiken Bots, again with great success and look forward to continuing it. Our accomplishments helped increase our membership and awareness in Parks earning us the Above and Beyond award from APCS. We are eager to continue this successful momentum in the years to come.



Student Branch News

Speaker- Candan Tamerler

This past semester SLU IEEE had the opportunity to welcome Dr. Candan Tamerler from Kansas University. Dr. Tamerler spoke on her research in the biomedical fields. She originally obtained her degree in mechanical engineering and gradually moved her research into the biomedical field, pioneering her research in bio-enabled material sciences. She showed how her research connects to electrical engineering and other applications, as most applications can be seen in the natural world and observed there. Her research is well known and she has been published in many engineering and medical journals. Her talk was very inspiring, encouraging students to further their education in graduate school and go into research.



Student Branch News

Solar Plant Tour

As a part of the professional section in the St. Louis area, student members were able to take a tour of Ameren Missouri's renewable energy solar plant. The day began with a very indepth presentation. The process of building the plant was discussed from beginning to end. Ameren personnel shared why solar was picked and the land surveys conducted to determine the most effective spot for the solar facility. The details of the silicon wafers in the solar panels were discussed as well. After the presentation the group was taken out to the field where the panels could be looked at close-up. The tour was informative and gave students a better representation of the power industry and possible careers!



Student Branch News

Region 5 Conference—New Orleans

Check out our pictures from R5 Conference!



Notification

IEEE STL Section Planning Meeting



*The Saint Louis Section will hold a Section Planning Meeting on **Monday, June 15, at 6:00pm** at the **Saint Louis University Parks College conference room.***

The main agenda item is organization of the IEEE Smart Computing (SmartComp) conference in St Louis.

All members are welcome to attend.

For more information, email sec.stlouis@ieee.org

Address:

**Parks College of St Louis University
3450 Lindell Blvd
St. Louis, MO 63103**

IEEE Saint Louis Section: <http://sites.ieee.org/stlouis/>

Notification

2015 IEEE REGION 5 AWARDS St. Louis Section

The following from our section won awards at the annual meeting that took place on April 17-19 in New Orleans:

Circuit Design:

1st: Kyle Harper, Kyle Gassel, Missouri S&T

Standards Paper:

1st Place: Jean Lou, Frozan Moqsoodi, Mark Wisniewski,
Saint Louis University

Student Paper:

2nd Place: Justin Hoyt, Missouri S&T
3rd Place: Charles Meyer, Mizzou

Ethics:

3rd Place: Samuel Baker, Daniel Bugger, SIU-E

Outstanding Member:

Yiyu Shi

Engineering Educator:

Kelvin Erickson, Missouri S&T

Jeffry Handal and Director Morgan present Standards
Competition Award to SLU students



Notification

Call for Award Nominations 2015 Annual Outstanding Awards

The Saint Louis Section is proud to announce its Call for Annual Outstanding Awards. This is a tradition where the best of the best are recognized for outstanding talent in their profession. Please consider this opportunity to appoint a fellow member of IEEE that is your colleague, friend, employer, customer or mentor that you feel is deserving of one of the following awards. All recipients will receive an engraved plaque, name printed in the ION and a free invitation to the Winter Social.

Awards Categories:

Outstanding Young Engineer – 1-10 years since graduation

Outstanding Educator

Outstanding Student Branch

Outstanding Company – at least one employee/executive is a Section Member

Outstanding Student Member – Student Member or Graduate Student

Member

Outstanding Section Member – greater than 10 years since graduation

Outstanding Branch Counselor

Notification

Instructions:

Fill out the nomination form below and send to sec.stlouis@ieee.org. The nominee cannot be a member of the Executive Committee nor have won the award in the past 5 years. All nominees must be active members in good standing in the St. Louis Section of the IEEE.

The deadline is September 15, 2015.

Award Category from List Above REQUIRED	
Nominee's Name (Individual or Company) REQUIRED	
*Nominee's IEEE Member # REQUIRED	
Phone	
Email REQUIRED	
Professional, Student and IEEE Significant Accomplishments/Contributions REQUIRED	Attach as PDF or DOC

Submitted by REQUIRED	
Phone	
Email REQUIRED	

*Name will be verified with SAMIEEE IEEE database to confirm active membership.

*For the *Outstanding Company Award* nominations the member numbers not required, but you must include the names of at least a Manager or an Executive that can represent the company at the Award Ceremony.

Dedication



James "Jim" V. Leonard

James V. Leonard was born in January 25, 1936 and died on May 11, 2015. He received B.S. in Electrical Engineering from the University of Akron in 1961, an M.S.E.E. (Power) from Washington University of St. Louis in 1966, an M.S.E.E. (Digital) from the University of Missouri-Rolla in 1976, and a professional degree from the University of Missouri-Rolla in 1984. He was a registered Professional Engineering in the states of Missouri and Ohio. He authored multiple publications and was co-inventor on thirteen U.S. patents, one Australian patent, and one European patent. He worked for McDonnell Douglas and then Boeing for 51 years rising to the position of a Senior Technical Fellow.

Mr. Leonard was active professionally. He served as President of the IEEE Aerospace and Electronic Systems Society (2006-07), President of IEEE-USA (2003), and IEEE Region 5 Director (1992-93). He co-founded the IEEE Missouri Conference (MOCON) and served as St. Louis Section Chair (1982-83). He was widely recognized as an aerospace electronics engineer and as an IEEE volunteer. His many recognitions include IEEE AESS Pioneer Award (2011), IEEE Fellow (Class of 2010), Royal Aeronautical Society (RAeS) Fellow (2007), and IEEE Region 5 Outstanding Member (2000 and 1991).

Mr. Leonard was a long-time supporter of engineering students and was particularly involved with Missouri University of Science and Technology. He received the Missouri S&T Alumni Achievement Award in 2009, was elected to the Electrical and Computer Engineering Academy at Missouri S&T in 2003, and was elected to Eta Kappa Nu (HKN) by the Gamma Theta Chapter in 2005.

Upcoming Events



PLAIN TALK

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- Are you an engineer new to the industry, or working in another industry who would like to transition to the Power Industry?

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For Course Brochures and To Register:
Visit www.ieee-pes.org/plaintalk

Contact LaToya Gourdine, Education Administrator, IEEE Power & Energy Society
at (732) 981-2876 or via email Lgourdine@ieee.org

SAVE THE DATE FOR ONE OF OUR 2015 EVENTS:

Knoxville, TN
March 24-26

Little Rock, AR
June 2-4

Denver, CO
July 28-30

Boise, ID
Sept 2-4

Pittsburgh, PA
Oct 6-8

Charlotte, NC
Nov 10-12

Upcoming Events



3rd Annual IEEE Conference on Technologies for Sustainability

July 30-Aug 1, 2015 in Ogden, Utah

[2015 Registration is now open here](#)

[Find the SusTech 2014 conference pages in the [Archive](#) or [Here](#).]

Welcome to the 2015 IEEE Conference on Technologies for Sustainability – Engineering and the Environment (SusTech). SusTech 2015 is sponsored by the [IEEE Oregon Section](#), [IEEE Region 6](#), [IEEE Utah Section](#) and [IEEE-USA](#). Technical co-sponsors are the [IEEE Consumer Electronics Society](#) (CES) and [IEEE Society on Social Implications of Technology](#) (SSIT).

Sustainability has been defined as: the pursuit of environmentally sound development that meets the needs of the present without compromising the future. [Source: UN Document A/42/427: Report of the World Commission on Environment and Development: Our Common Future, August 1987]

Some have said that the developed world has achieved its success to date by stripping and mining the world of raw materials and resources, leaving behind piles of tailings and garbage. This is an 'extractive view' of society, rooted in the era of colonialism. It would appear this approach may not be sustainable in the long run. Especially as the people in developing nations want to improve their lives and raise their standard of living. As technologists, what can we do to develop new products and processes that while they may need or use resources, are more sustainable in the long run? Reduce, reuse, and recycle? Improve the efficiency of existing products and processes? Develop innovative or revolutionary approaches and processes? The goal of the IEEE Technologies for Sustainability (Sustech) Conference is to explore the development and application of science, engineering and technology to promote sustainability in these areas:

Upcoming Events

- **Agricultural Sustainability** (e.g. control and production of fertilizers, soil, water conservation, irrigation, fisheries)
- **Alternative Energy** (e.g. solar, wind, tidal, fuel cells, energy harvesting, nuclear, thermal)
- **Energy Efficiency** (e.g. sensors and measurement, energy saving controls, auto electronics & fuel economy, data centers, power saving, Smart Environment)
- **Transportation Electrification** (e.g. electric vehicles, aviation, motors, drive controls, batteries, sensors, environmental & power distribution impacts)
- **Smart Grid** (e.g. communications, control, power electronics, industrial and home applications, energy storage, demand control and response)
- **Sustainable Electronics** (e.g. sustainable manufacturing, components, global materials supply, hardware life-cycle, nanotechnology & health/environment, reuse and repair of consumer electronics, materials harvesting from electronic waste, Open repair manuals and on-line repair and electronics sustainability resources, best practices)
- **Societal Implications / Quality of Life** (e.g. EM spectrum allocation, global warming, autonomous vehicles, health & medical electronics, global education & human resources, risk management, remediation, purification, public policy)

Venue

The conference will be held July 30-Aug 1 2015 in beautiful Ogden, Utah at Weber State University. Weber State is a lovely campus tucked along the majestic Wasatch Front. Ogden is the famous railroad hub near Promontory Summit where golden spike joined the railroads (that same golden spike is now on display at Stanford University's art museum). This is where the country's economy became sustainable through coal fired railroad technology, and from this is a historic location we will look to the future.

The weather is magnificent in late July in Ogden. High temperatures then are typically in the comfortable 80'sF with lows in the mid 50'sF. Ogden features majestic mountain views, endless outdoor activities. It offers all the benefits of urban life, along with incredible access to the outdoors. Bring your spouse/companion and spend a few days before or after the conference in our beautiful city.

More Information:

For more information on the conference program [click here](#).

For information on the conference venue [click here](#).

For information on supporting the conference as a patron or becoming an exhibitor [click here](#).

Check back for updates. You may subscribe to our [RSS feed](#).

If you want to volunteer please contact us using the form [here](#).

Dan Donahoe
Chair, 2015 Sustech Conference Committee

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Advertisements

STLCC-FV NSF STEM Scholarship Program

Regular readers of this publication already know of the excellent academic work that is available through St. Louis Community College at Florissant Valley, but you may not be aware of the fact that StLCC has the ability to put money in the hands of students planning STEM careers!

It's called the St. Louis STEM Scholarship (or S3 for short) and it was funded at the start of the second grant in the amount of \$472,000 by the National Science Foundation. The Program is in the fourth year of its second iteration (it has just been extended for another year) and it targets very specific majors/disciplines:

- I. Biotechnology
- II. Computer Integrated Manufacturing
- III. Computer Science
- IV. Engineering Science
- V. Engineering Technology
 - A. Civil Engineering Technology and Construction Management Technology
 - B. Electrical and Electronic Engineering Technology
 - C. Mechanical Engineering Technology

All of these curricula are two-year degree (AS, AAS) programs.

To qualify a student must:

- Have a 2.50 or higher GPA.
- Be enrolled fulltime at STLCC-FV in a STEM major: Biotechnology, Computer Integrated Manufacturing, Computer Science, Engineering Science and Engineering Technology.
- Have earned at least a "B" or Intermediate Algebra or any higher Mathematics class.
- Demonstrate financial eligibility as determined by the STLCC Financial Aid Office.

Advertisements

This scholarship was designed to assist students wanting to major in these difficult courses of study by helping them with daily necessities, like food and gasoline, thus easing the need to hold down a job while attending school. The money is awarded directly to the student to use as they choose. More information is available through the STLCC website at:

http://www.stlcc.edu/Admissions_and_Registration/Financial_Aid/STEM_scholarship.html

There is a link to a video at the bottom of this website; the “stars” of the video are STEM Scholarship graduates.

There are many advantages to this Program. First, the Program has a campus club that is associated with it, the STEM Organization. The club takes its members on tours of places like Ameren UE, MoDOT, the Melvin Price Locks and Dam, the St Charles County Criminalistics Lab, and the Missouri University Research Reactor. Second, the Scholarship has with it a Service Learning requirement, which means the scholarship requires its recipients to perform volunteer work during the course of the semester. The volunteering has included the St. Louis Science Center, Habitat for Humanity, the Greater St. Louis Boy Scout Council, and various schools in the North County area. This serves to help the students become more aware of the community at large, which in turn helps them become a more well-rounded, well-grounded individual. And third, the club itself is fully functional which means students are its officers, giving them much needed leadership and communication skills.

During this iteration of the Program the scholarship has assisted a total of 75 students with over \$300,000 of assistance (the school year is not over yet, so the figures for this year are not final). Some of the students were with the Program for more than one year because the Scholarship is renewable as long as grades remain good and the need is still present. And by and large, our STEM students have gone on to other institutions and continued to make their teachers and advisors glow with pride at their success!

Theresa Hacker,
Program Administrator, STLCC-FV NSF STEM Scholars Program

Patricia A. Suess, Ph.D.,
Principal Investigator, STLCC-FV NSF STEM Scholars Program