



IEEE Memphis Section Report for Southeast Conference 2013

Highlights

Most Fun Recent Activity:

- A leadership retreat for EXCOM and student members was held at a local nature center.

Most Successful Recent Activity:

- The Leadership Retreat was very well attended by all EXCOM and student officers.

Member Engagement Activities:

- We increased number of technical talks in the last year. We have planned a member survey and are developing a member engagement plan.

Section Activities Focused Outward:

- We significantly increased our STEM outreach and created a WIE and Gold Affinity groups.

Barriers:

- We need to increase the number of members at events and reduce the number of non-renewing members.

Issues requiring action by the Region 3 ExCom or Committee

- We need to review the process of selection for the ethics competition and make it more inclusive.

Summary of Activities for Memphis Section 2012-2013.

Technical Society Talks

- IEEE Memphis EMBS Society holds weekly seminars, chaired by Emmauel Villa Barca, EBMS Society Chair, and Vice Chair Amy de Jong Curry
- IEEE Memphis Computer Society holds monthly talks - most recent one was on Software Development and Project Management talk (3/22/13), Chaired by Yuri Quintana, CS Society Chair, and Chad Baker, Vice Chair
- IEEE Memphis Power Society holds quarterly talks, Chaired by Mohd H Ali, Chair, and William L Allen, Vice Chair.
- Tennessee Society of Power Engineer and IEEE Memphis are doing joint events. The next TSPE/IEEE meeting to be held on April 9th will be ALLAN H. LONG, P.E., F.NSPE. Allan's topic will be "Model Lighting Ordinance and the new Memphis and Shelby County Unified Development Code. "

Regional and National Conferences

- Oxford Mississippi, at Ole Miss on October 14 and 15 of 2013. The conference name is Memphis Annual Engineering and Science Conference. http://www.maesc.org/MAESC_2013_V8.pdf
- 2014 IEEE International Symposium on Antennas and Propagation & USNC-URSI National Radio Science meeting will be held 6-12 July 2014, Memphis, TN. Contact: Atef Elsherbeni and Fan Yang, the University of

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STEM Outreach

- A robotics camp for children health was held at the Memphis Children's Museum (3/11/13-3/15/13) with IEEE students working as teaching staff and mentors.
- We held a STEM (Science, Technology, Engineering, Math) Education resources presentation for Shelby County teachers (2/18/13). We presented IEEE's TryEngineering.org program, and the local robotic competitions for schools.
- IEEE Volunteers supported the Fall Memphis First Lego League Robotics events in Memphis <http://fll.memphisfirstteams.org/> organized by IEEE Volunteer, Frank Niedzwiedz, PE.
- We are increasing the size of the Memphis First Lego League competition for Fall 2013. We will be making it a regional qualifier for the national FLL competition. We have applied for external funding.
- IEEE volunteers supported the Memphis US First Robotics competition for high schools, <http://memphisfirstteams.org> organized by IEEE Memphis Volunteer Daniel Kohn.
- IEEE Volunteers helped with the local Mathcounts competition during engineering Week (Feb 2013)
- IEEE Volunteers helped with IEEEExtreme software competition Oct 19-20, 2012
- IEEE Foundation as supported a grant to Yuri Quintana, IEEE Memphis section chair to develop an iPad and museum exhibit to highlight engineering and life sciences technology. See abstract below.

Student Branches

- Two active branches: University of Memphis (faculty mentor Daniel Kohn) and Christian Brother's University (faculty mentor John Ventura)
- Supported travel of over 20 students to the IEEE Southeast conference to present technical papers and compete in robotic competitions (4/7-4/11/13)
- We are supporting the Student Professional Awareness Conference (S-Pac) for Mid-South Engineering students (to be held 4/26/13)
- A regional student leadership conference is being organized for Sept 7, 2013 at Christian Brothers University.

Awards

- We nominated and recognized an Daniel Kohn, IEEE Memphis Secretary as our featured Engineer during Engineering Week Celebration (February 2013)
- Pending: Developing a strategy to submit more names to IEEE Awards, and grade advancement (senior member and fellow)

Communication

- IEEEMemphis.org web site was updated
- Pending: a monthly newsletter and a better way to manage the electronic mailing list (currently export list from SAMIEEE to constantcontact)

New Affinity Groups

- IEEE Memphis Women in Engineering Group formed (March 2013), chaired by Divya Choudhary
- IEEE Gold group forming (April 2013), chaired by Andrew Wellman.

Strategic Planning and Leadership

- Leadership Retreat was organized Sept 2012
- Strategic Plan Developed for the section (March 2013)
- Pending - Developing a strategy for reach out to new members and those that have recently left

Inspiring Emerging Engineers Explore Life Sciences

This is a grant from IEEE Foundation to, Yuri Quintana, IEEE Memphis Section Chair and Director for Education and Informatics at St. Jude Children's Research Hospital. This project is in collaboration with St. Jude Children's Research Hospital and IEEE members in Memphis and Los Alamos section.

Abstract

This project (IEEELS) will develop interactive multimedia to teach students and members of the public about bioinformatics and supercomputing in the context of cancer genetics. Not only will they learn about the technological aspects of genetic analysis but they will also understand how the technology is applied to meaningful humanitarian causes like discovering cures and saving the lives of children with catastrophic diseases. The project will develop educational multimedia to be disseminated via websites, a mobile app and interactive museum kiosks to extend its educational reach. By offering the interactive app online at www.Cure4Kids.org/kids, in the Apple App Store, and in at least three U.S. museums it will reach upwards of 300,000 individuals from around the world annually. The Children's Museum of Memphis, Health Museum (Houston), and Bradbury Science Museum (Los Alamos) have already agreed to host the kiosk. Even though there are some existing web projects and museum exhibits that focus on cell biology, genetics or the human genome project, many are not up to date in respect to methodology and technology and are often very general and therefore possibly not enticing to our target audience of teenagers. In addition, we believe that an exhibit explaining supercomputing within an applied framework will increase the ability for the audience to grasp new concepts and remain engaged. It will describe newer technologies to sequence whole genomes of patients in a clinical context (pediatric cancer) with an emphasis on the interdisciplinary approach involving clinicians, researchers, engineers and informaticians. This educational app will describe the hardware and software used in life science computations and nanotechnologies. Students will be introduced to concepts and new emerging careers in life sciences engineering. Through its interactive design, this multimedia application will inspire and intrigue the minds of future engineers for years to come.

Status:

A preliminary outline of an ibook and ipad app has been developed. Two IEEE students (undergraduate and PhD) have been hired. We have started to work with local museums and expect to have an prototype exhibit by Fall 2013.

IEEE Memphis Section - Strategic Plan 2013

Goals and Objectives

- **Goal 1 - For IEEE Memphis to be a preferred technical society for Electrical & Computer engineers for local technical education and professional networking.**
 - **Objective 1 – Deliver a consistent number and quality of technical meetings for IEEE Members in the Memphis region throughout the year.**
 - **Metric 1.1** Number of technical meetings: **Target:** 2 per society plus 4 special events (SPAC, Leadership workshop, WIE event, Gold Event) for a total of **10 per year**.
 - **Metric 1.2** Average rating of attendees of technical meetings. **Target:** To have an **average of an Excellent rating** or above for our meetings and no unsatisfactory ratings on any meeting. (Rating Scale for Events: Unsatisfactory, Satisfactory, Good, Very Good, Excellent, Outstanding).
 - **Objective 2 Provide Professional Development meetings**
 - **Metric 2.1** Number of Professional Development meetings per year. **Target:** At least **2 per year** (licensing, ethics, leadership).
 - **Metric 2.2** Average rating by attendees of professional development meetings. . **Target:** To have an average of an **Excellent rating or above** for our meetings and no unsatisfactory ratings on any meeting
- **Goal 2 - Provide Educational STEM outreach for Youth**
 - **Objective 3 - Increase the number of professional development for local area teachers**
 - **Metric 3.1** : Number of IEEE supported events for supporting local area teachers to introduce engineering and IEEE TryEngineering.org websites. **Target: 2 or more per year.**
 - **Metric 3.2** : Average rating of attendees of IEEE teacher meetings. **Target: ratings Excellent** or above for our meetings and no unsatisfactory ratings on any meeting.
 - **Metric 3.3** : Number of IEEE volunteers in teacher training events (organized by IEEE and non-IEEE). **Target: 10 volunteers spots** filled or more per year
 - **Objective 4 - Increase the number and quality of engineering competitions for local students**
 - **Metric 4.1** : Number of events for students and locally organized competitions . **Target: At least 3 events** (FLL, US First, Matcounts, other?)
 - **Metric 4.2** : Average rating of students to our events. **Target: ratings Excellent or above** for our meetings and no unsatisfactory ratings on any meeting.

- **Goal 3 - Increase the number of members in our chapter and provide recognition for outstanding members.**
 - **Objective 5 - Increase the number and participation of engineering in the IEEE section.**
 - **Metric 5.1-** Number of members in our section. **Target: Increase** number of section members **by 5%.**
 - **Metric 5.2-** Number of members that participated in at least 1 event. Target:
 - **Objective 6 – Recognize outstanding members from our section**
 - **Metric 6.1-** Number of members recognized in our section. **Target: Provide at least two or more awards** (featured engineer in February , plus one or more for service to societies or IEEE HQ)
 - **Metric 6.2-** Number of members in elevated in our section to senior. **Target: Elevate at least 2 or more members to senior rank.**
- **Goal 4 Increase the number of girls and women in Engineering**
 - **Objective 7 - Increase the number of women that are members of the IEEE Memphis section**
 - **Metric 7.1 -** Number of women members in IEEE Memphis section. **Target:** 100 WIE Memphis members or more.
 - **Metric 7.2 –** Number of events for women in engineering. **Target:** 1 or more events one for professional women.
 - **Metric 7.3 -** Satisfaction rating of women members to events to be Excellent of better. **Target: ratings Excellent** or above for our meetings and no unsatisfactory ratings on any meeting.
 - **Objective 7 - Encourage more girls to consider Engineering careers in Memphis area schools**
 - **Metric 8.1-** Number of girls exposed to engineering careers at school visits by women engineers.
 - **Metric 8.2 :** average rating of students and teachers to these events to be Excellent or better
- **Goal 5 Improve the number recent graduates (last 10 years) that become members of IEEE Memphis Section**
 - **Objective 9 - Increase the number and participation of recent graduates in the IEEE section**
 - **Metric 9.1 -** Number of recent graduates members in our section. **Target: Increase** number of section members **by 5%.**

- **Metric 9.2** - Number of members that participated in at least one event. . **Target:** 100 GOLD members or more participating in one or more events.
- **Goal 6 Have efficient and transparent communications**
 - **Objective 10 – Communicate Regularly with Members and IEEE Headquarters**
 - **Metric 10.1** - Number of email newsletters. **Target:** have at least one email per month to members.
 - **Metric 10.2** - Number of updates to website.. . **Target:** update website at least once a month.
 - **Metric 10.3** - Timely Reports to IEEE HQ. Target. Report all events with 7 days and have no late section reports to Region 3 or IEEE headquarters.