Wavelengths

IEEE Southeastern Michigan
Electrical and Electronic Engineers Creating Our Future

Volume 54 – Issue 09
September 2014

Contents

Section Chair's Message

September Message:

I hope everyone has been having fun this summer. Rest, relaxation and play are important ingredients in recharging your batteries and clearing your mind for work and volunteer efforts. It's hard to believe it's almost Fall.

Many of our committees, chapters and affinity groups have been working hard this summer to plan their upcoming activities. Please see our section web site for announcements, **www.ieee-sem.org**, … and the interactive calendar for specific events in your interest areas. You can find the calendar by clicking on the "SEM Calendar" tab on the home page.

The Section Fall Conference committee has been hard at work organizing an exciting and educational event. All IEEE members and non-members are invited.

Details and a link to the web site are contained in an article on page #10 of this issue. Keep checking the web site for updates and please register as soon as your plans are firm because that sincerely helps the committee's planning. I will plan to see you there. Please introduce yourself if we have not met as yet.

Please consider nominating someone or yourself for a position in our Section, your Chapter or your Affinity Group. More details are available on page #2 of this issue.

We value your comments and ideas so, if the resources in our Wavelengths Newsletter or at our web site cannot answer your questions, please feel free to contact me.

Robert Neff
IEEE SEM Section Chair
RLNeff1@gmail.com   -30-

Wavelengths is published monthly as the official newsletter of the IEEE Southeastern Michigan Section.

2014 Nominations/ Elections

The Nominations & Appointments Committee is ready to begin assembling the ballots for officer elections for the <u>Section</u>, the <u>Affinity Groups</u> and our <u>Technical Chapters</u>.

The IEEE Member and Geographic Activities organization (MGA) recommended schedule for the steps in a Section election have are undergoing a slight change this year. The vTools electronics support tools are upgraded to permit automatic identification of eligible voters for the ballots for each Chapter and Affinity Group, and we are doing our best to align with that revised schedule.

To complete this process in a timely manner we will be updating you each month with the current status of election nominations and finally the election as collected in our vTools survey system.

All the officer positions within our Section elements are collected in an on-line form that anyone in the Section may access.

Officer Positions:
All of our Section elements have the same ballot election positions
- **Chair**
- **Vice-Chair**
- **Secretary**
- **Treasurer**

Each of these positions is elected for a 1 year term, with the possibility of reelection the following year.

MGA recommends that no officer hold an elected position for more than 3 consecutive years. This is to encourage younger officers to 'step up' to the learning experience of holding an office, to encourage our more senior volunteers to become 'mentors' of the new officers and to themselves 'step up' to more responsible positions in the Section, the Region and in the upper MGA and TAB organizations.

Requirements:
The MGA insists that all officer candidates share some common characteristics.

All candidates must:
- *Be a paid up "Member". (You will verify that by submitting your **member number** with your application in the survey. We will cross check against the SAMIEEE member database.).*
- *Hold member grade of <u>Graduate Student or higher</u>.*
- *To be a candidate for an Affinity Group (AG) or Chapter (Ch) office, <u>you must be a member of the AG or Chapter primary organization</u>.*

The software system is set up to evaluate these requirements as a first level check of a candidate's qualifications.

If one of these qualifications is not met, the candidate is invalidated for that position.

The complete listing of all the officer positions in Southeastern Michigan Section may be found on the SEM Website at: **http://sites.ieee.org/sem/** Use the Top Banner, and click on the "About SEM" button. Then in the side bar that shows up, click on the "Current Officers" button. In the central page, note the list of officer rosters and click on the most recent.

Alternatively, use the link below, and you should be presented with the current Officer Roster. **http://sites.ieee.org/sem/files/2012/09/Officers_Roster_IEEE_SEM_5_23_2014.pdf**

The complete list of Affinity Groups and Technical Societies is shown in the title block with each of the relevant SEM elements. If you are in doubt as to whether or not a particular Chapter or AG represents a Society, you may find that information in the Officer Roster.

It should be noted that we often 'elect' and/or 'appoint' more than one "Vice-Chair" to an Affinity Group or Chapter to handle the multitude of activities that in which a busy organization becomes involved. This is especially true of our "Joint" Chapters where more than one technical society makes up the Chapter. In this case, we recommend that there be one Vice-Chair for each constitute Society in the Chapter.

Election Nominations Survey Site:
In order to either nominate yourself for an officer position, or to nominate someone else for election to a position, open the vTools Survey site at: **https://ieee.fluidsurveys.com/s/SEM-2015-Election-Nominations/**

Be aware that one of the first items you will need to use the survey is either your **member number**, or the member number of the person whom you are nominating for election.

Current Nominations Status:
On the next page we are publishing the charts of the current level of nominations for Affinity Group and Chapter officer nominations. If there is a "1" in a cell, then there is at least one candidate for that office. (<u>MGA recommends we find 3 candidates for each office</u>.)

If you are a current holder of an officer position in an Affinity Group or Chapter, please be aware that a <u>nomination for continuing in your office is **NOT automatic!**</u> You MUST either self-nominate for election in September, or have someone else nominate you for your office, or for another office in the Section.

We look forward to hearing from you soon.

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Chapters & AGs w/# of Candidates for Each Office

Ch's & AG's	Chair	Vice Chair	Secretary >	Treasurer	Name
Cnslt	1	0	0	1	Consultants Network
LIFE	2	0	0	0	Life Members
WIE	0	0	0	0	Women In Engineering
YP	0	0	0	0	Young Professionals
1	1	2	0	0	Circuits & Systems, Signal Proc., Info Th.
2	0	0	0	0	Vehicular Technology
3	0	0	0	0	Aerospace & Elec. Sys., Communications
4	1	2	0	1	Trident (Ant, Elect Dev., uWave, Photo)
5	1	3	1	1	Computers
6	0	0	0	0	Geoscience & Remote Sensing
7	2	0	0	0	Power Engineering, Industrial App.
8	1	1	1	1	Electromagnetic Compatibility (EMC)
9	0	0	0	0	Power Electronics, Industrial Electronics
10	0	1	0	0	Engineering Management
11	1	0	0	0	Eng. in Medicine & Biology
12	0	0	0	0	Control Systems
13	0	0	0	0	Education
14	0	1	0	0	Robotics & Automation
15	0	0	0	0	<< Open Slot >>
16	1	0	0	0	Computational Intelligence / Sys.Man.Cyber.
17	1	0	0	0	Nano Technology Council
SEM	2	2	0	0	SEM (Section)
				32	Canidates to date

Chapter & AG Offices w/Minimum # of Candidates

Ch's & AG's	Chair	Vice Chair	Secretary >	Treasurer	Name
Cnslt	1			1	Consultants Network
LIFE	1				Life Members
WIE					Women In Engineering
YP					Young Professionals
1	1	1			Circuits & Systems, Signal Proc., Info Th.
2					Vehicular Technology
3					Aerospace & Elec. Sys., Communications
4	1	1		1	Trident (Ant, Elect Dev., uWave, Photo)
5	1	1	1	1	Computers
6					Geoscience & Remote Sensing
7	1				Power Engineering, Industrial App.
8	1	1	1	1	Electromagnetic Compatibility (EMC)
9					Power Electronics, Industrial Electronics
10		1			Engineering Management
11	1				Eng. in Medicine & Biology
12					Control Systems
13					Education
14		1			Robotics & Automation
15					<< Open Slot >>
16	1				Computational Intelligence / Sys.Man.Cyber.
17	1				Nano Technology Council
SEM	1	1			SEM (Section)
				24	Chapter & AG Offices w/ min # of candidates
				84	Total Offices to fill
				29%	Percent Filled

Election Schedule

As we mentioned above, the vTools election software is undergoing revision and this is prompting a change in our original schedule plan. We are also seeing a much easier and faster collection and analysis process with the software we developed to assist us to prepare for elections.

As a result, we will be able to compress the overall schedule and revise our plan as shown below.

Our original plan was to build the actual 'Ballots' for each SEM Unit in preparation for an official "Launch" by mid-September. **We do not yet have sufficient candidates to begin that process.**

In the charts above you can see that we only have about 30% of the positions indicating at least one candidate for the office.

We are still planning on conducting a "staggered" launch of individual SEM Units ballots because the launch of so many at the same time in the past has confused and frustrated many members.

We hope this process revised process will help make the elections more accessible for everyone.

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Schedule Chart

Groups	Units	16-Apr	23-Apr	30-Apr	7-May	14-May	21-May	28-May	4-Jun	11-Jun	18-Jun	25-Jun	2-Jul	9-Jul	16-Jul	23-Jul	30-Jul	6-Aug	13-Aug	20-Aug	27-Aug	3-Sep	10-Sep	17-Sep	24-Sep	1-Oct	8-Oct	15-Oct	22-Oct	29-Oct	5-Nov	12-Nov	19-Nov	26-Nov	3-Dec	10-Dec	17-Dec	24-Dec	31-Dec	7-Jan	14-Jan	21-Jan	28-Jan	4-Feb	11-Feb	18-Feb
0	Section	N							CN				CN			CN			CN			CN	BB			LB					RR										CK					
1	Chap10	N							CN				CN			CN			CN			CN	BB			LB					RR										CK					
1	Chap13		N							CN				CN			CN			CN			CN	BB			LB					RR										CK				
1	Cons.			N							CN				CN			CN			CN			CN	BB			LB					RR										CK			
1	LIFE				N							CN				CN			CN			CN			CN	BB			LB					RR										CK		
1	WIE					N							CN				CN			CN			CN			CN	BB			LB					RR										CK	
1	YP						N							CN				CN			CN			CN			CN	BB			LB					RR										CK
2	Chap1	N							CN				CN			CN			CN			CN		BB			LB				RR											CK				
2	Chap14		N							CN				CN			CN			CN			CN		BB			LB				RR											CK			
2	Chap16			N							CN				CN			CN			CN			CN		BB			LB				RR											CK		
2	Chap3				N							CN				CN			CN			CN			CN		BB			LB				RR											CK	
2	Chap5					N							CN				CN			CN			CN			CN		BB			LB				RR											CK
3	Chap11	N							CN				CN			CN			CN			CN			BB			LB				RR												CK		
3	Chap17		N							CN				CN			CN			CN			CN			BB			LB				RR												CK	
3	Chap4			N							CN				CN			CN			CN			CN			BB			LB				RR												CK
3	Chap6				N							CN				CN			CN			CN			CN			BB			LB				RR												CK
3	Chap8					N							CN				CN			CN			CN			BB			LB				RR													CK
4	Chap12	N							CN				CN			CN			CN			CN				BB			LB					RR											CK	
4	Chap2		N							CN				CN			CN			CN			CN				BB			LB					RR											CK
4	Chap7			N							CN				CN			CN			CN			CN				BB			LB					RR											CK
4	Chap9				N							CN				CN			CN			CN			CN				BB			LB					RR											CK
5	Chap15																																													

Legend / milestones:
- Nominations
- Capture Nominations
- Breather
- Build Ballots
- Launch Ballots
- Report Results
- Report to Section Executive Committee
- Update vTools Officer Report for all Units
- Check / Confirm Officers
- Launch 'Search' if needed.

Library Science Kit Program in Ann Arbor

The IEEE Library Science Kit Program is designed to expose young students to a 'Hands On' interactive experience with science and technology under the guidance of IEEE members who coach and assist them to successfully work with the materials at hand and see for themselves how much fun this can be.

Our first experience with the Ann Arbor District Library was successful even though two of the summer events had to be cancelled because of main library construction.

Library staff appreciated our volunteers and thought they added a lot to the program.

Personally, I know the kids and adults liked having us present. And, the volunteers enjoyed the experience.

One volunteer thought it was really easy to engage:
"*I was nervous about being outgoing enough myself but within a few minutes that was completely forgotten and the three hours flew by.*"

Another thought it was nice to give back to the community and help to teach the next generation since programming skills are very useful in today's world.

I know we will be invited back next summer.

The attached 4 pictures were taken by library staff and cleared for publication with permissions by the library.

Thanks IEEE for the opportunity to help with the program and a particular "thank you" to all the volunteers who gave up many hours and made the programs successful." .

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Career Skills Workshop

Career Planning and Management, Soft Skills in the Workplace and Interpersonal Skills

Electrical and Electronic Engineers Creating Our Future

Saturday, September 13, 2014

Fairlane Center South (at University of Michigan - Dearborn)

Dining Room D
19000 Hubbard Road, Dearborn, MI, 48126
Tel: +1 313 583 6511

Workshop Website: https://meetings.vtools.ieee.org/m/27077

Workshop Overview

This workshop is designed to provide participants the tools to plan and manage their career. A successful career requires the ability to influence others. This workshop also provides participants the tools to develop leadership skills and techniques required to influence others, regardless of their authority over the other individual(s). Finally, the workshop provides participants the tools to develop skills for interpersonal effectiveness which allow them to lead or influence others competently.

This workshop is intended to help participants develop a career plan based on their skills and objectives. The participants learn how to manage their career using their career plan and to make adjustments as required. This workshop helps participants develop and improve interpersonal, group, team and leadership skills. The workshop is targeted for an audience interested in taking control of their career, wherever they may be in their career cycle. The format for the workshop includes the presentation of the core material and interactive participation; using exercises, case studies and open discussion.

Experienced engineers are well aware that high levels of career success depend on a balance of effective technical and non-technical skills. While some non-technical skills can be obtained in the formal classroom and laboratory, you need to find additional methods of enhancing interpersonal, teamwork, leadership, project management, and other people related skills. This workshop is meant to provide you a method for enhancing these skills.

A career plan, properly developed and managed, provides great satisfaction and greater success in your career and life. Leadership and "soft" interpersonal skills allow you to work more effectively with others, whether as part of a team or as a leader of the team. Leaders have vision and the ability to inspire others to accomplish great things. The skills developed in this workshop will help you achieve greater success in your career and life.

IEEE Members …………………………………………………….…… $10
Non Members ……………………………………………………..…… $15
Students ………………………………………….……………………..FREE!

Register at the Workshop web site **https://meetings.vtools.ieee.org/m/27077**

Meeting Agenda:
09:00 - 09:30 AM Registration and Continental Breakfast
09:30 - 10:00 AM Career Planning and Career Management – The Basics
10:00 - 10:30 AM Career Planning and Career Management – Exercise
10:30 - 10:45 AM Break All
10:45 - 12:00 AM Career Planning and Career Management – The Details
12:00 - 01:00 PM Lunch (provided)
01:00 - 02:15 PM Soft Skills in the Workplace
02:15 - 02:30 PM Break
02:30 - 03:45 PM Leadership - Interpersonal Skills

Join us for a fun and educational day!

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Great Lakes – Software Process Improvement Network

On **Thursday, 11 September, 2014**, the Great Lakes - Software Process Improvement Network (GL-SPIN), our Gold Sponsor, Broadsword Solutions (www.BroadswordSolutions.com) and the LTU Student Branch, will host:

Decomposition and Layered Architecture: Managing Complexity in Embedded and Application Software

This subject will be presented by Professor Benjamin Sweet, of Lawrence Technological University.
Professor Benjamin "Ben" Sweet is an Adjunct Faculty member, at Lawrence Technological University in Southfield, MI, where he has taught for the departments of Electrical & Computer Engineering, Math & Computer Science, Humanities, Technology, and Continuing Education since 1994. His primary focus is Embedded Systems, Software Engineering, and Control Systems.

"Ben" Sweet has been engaged in the industry of developing real-time embedded software/systems for automotive and industrial applications since 1987. He currently holds the position of Staff Software Engineer in the Advanced Development group at Panasonic Automotive Systems, Vehicle Audio and Infotainment Systems. In this role he is involved in defining software product-line architecture and developing software to meet the evolving needs for advanced audio and infotainment products.

This presentation will explore the concept of Abstraction in general; as it relates to Software Development. Additionally, the presentation will cover how Abstraction can facilitate communication and understanding in the Software Development Process.

Discussion will include, the application of Abstraction and Decomposition to software engineering (and more generally to systems engineering). Moreover, benefits to the overall software (and product) development process linked to Abstration and Decomposition will be brought into focus. Layered software architectures are introduced, together with the benefits of the inherent Abstraction, is discussed.

Finally, a relatively simple layered software architecture (used in Embedded Systems Class and Lab at Lawrence Technological University) will be demonstrated.

SITE LOCATION:
Lawrence Technological University
21000 West Ten Mile Road
Southfield, MI 48075-1058

1.800.CALL.LTU
Lawrence Technological University:
Lear Auditorium (T429), UTLC Building (#17 on Campus Map)

PARKING & DIRECTIONS:
It is recommended that attendees park in Lot C; along the Northwestern Hwy. Service Drive entrance.
Online campus map: http://www.ltu.edu/map/
Driving instructions: http://www.ltu.edu/sitemap/directions.asp

MEETING FORMAT:
6:00. Networking and light supper/refreshments
6:30. Introduction of speaker
6:45. Featured speaker
7:15. Questions & Answers
7:30. Meeting close
Please RSVP "I Will Attend" to glspin97@gmail.com

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Consultants Workshop

Consultant Workshop – September 20th, 2014

Speakers:

Greg Peters of Reluctant Networker

Topic: Rescuing the Reluctant Networker

They say networking is the best way to grow your business, build your non-profit, or find a new career.

So, why isn't it working?

This session will help participants recognize and avoid the three biggest mistakes in networking. They will also learn a five-point system to accelerate the process of creating long-term, powerful connections.

Biography: Greg built a thriving Web development business over the course of fifteen years using the networking skills he learned and refined during that time. A computer programmer by training, he was the original reluctant networker. Through study, practice, and lots of trial and error, he has been able to transform himself into a true networking professional — a transformation he would like to help all entrepreneurs make.

Greg Peters coaches individuals, trains staff, and presents to associations and other groups on how to get past their reluctance and start building better connections and stronger networks. He is the author of the audio program "Calm, Cool, and Connected at the Networking Event" and the acclaimed blog, "The Reluctant Networker". He also contributes a weekly networking tips to local media outlets in the Ann Arbor area.

Email: gpeters@thereluctantnetworker.com

Jacob Beningo of Beningo Engineering

Topic: Getting Started as a Consultant

The transition from being an employee to running your own consulting practice is challenging. Business and personal life choices will impact your ability to succeed. This talk will present the basics of successfully entering engineering consulting highlighted with personal experiences and observations. Included will be a discussion of business and personal life choices that help prepare an engineer to make the transition to private practice. The session will also present information from the 2013 IEEE-USA Consultants Fee Survey including:

• Consultant Demographics • Business generation • Pricing models • Fee survey results

Biography: Jacob Beningo, CSDP. Jacob Beningo is a Certified Software Development Professional (CSDP), chair of the IEEE SEM Consultants Affinity Group, an independent consultant and lecturer who specializes in the design of embedded software for resource constrained and low energy mobile devices. He has successfully completed projects across a number of industries including automotive, defense, medical and space. He enjoys developing and teaching real-time and software development techniques using the latest methods and tools. He blogs for EDN.com about embedded system design techniques and challenges. He is an avid tweeter, a tip and trick guru, a homebrew connoisseur and a fan of pineapple! Jacob holds Bachelor's degrees in Electrical Engineering, Physics and Mathematics from Central Michigan University and a Master's degree in Space Systems Engineering from the University of Michigan.

Email: jacob@beningo.com

Consultant Workshop – (continued)

Salvatore Bono of Canfield Creative Studios

Topic: Using Social Media to Create a Brand Presence

Connecting with people and maintaining a presence is an important part of gaining consulting clients. Social media offers a unique and important channel from which a consultant can launch their business. This presentation will cover how to get started using social media, how to coordinate different social channels, developing a plan and how to create a consistent brand that stays on the radar. Currently talking with the following who is interested.

Email: contactsalbono@gmail.com

Agenda
8:30am – 9:00am
Registration, Coffee and Muffins (included with registration fee)

9:00am – 9:10am
Welcome & Opening Remarks
SEM IEEE Consultants' Network Chair; Jacob Beningo

9:10am – 10:30am
How to Grow, Maintain and Get Referrals from your Network
Greg Peters, The Reluctant Networker

10:40am – 11:30am
Using Social Media to Create a Brand Presence
Sal Bono, CANFIELD Studios

11:30am - 12:00pm
Lunch & Networking (included with registration fee)

12:00pm – 12:50pm
Getting Started with Consulting
Jacob Beningo
1:00pm – 1:50pm
Closing Panel Discussion – Ask the Consultants

Registration Fees:
Students: $20
Members: $40
Non-Members: $60

Location:
Fairlane Center (North)
Room Number: E-Quad
19000 Hubbard Drive
Dearborn, Michigan
United States 48126

REGISTER AT: https://meetings.vtools.ieee.org/meeting_registration/register/26917

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Student Branch Officer Training Workshop

Sunday, October 26, 2014 9 AM to 3 PM
Fairlane Center North (at University of Michigan - Dearborn) Quad E
19000 Hubbard Road, Dearborn, MI, 48126

No Admission Charge

Workshop Overview
SEM Section Student Activities has initiated a pilot project named **Student Network Project** aimed at networking the Student Branches in the section.
Many of the Student Branches across the section faced a common set of problems. Each Student Branch tackled the problems in their own way. A study revealed that like there were common problems, there were also common solutions. Many of the problems were solved by peer-to-peer connections and hence came up the concept of networking. The learning/best practices from different branches were collated and formed the base for the Student Network Project in the section. Part of the Student Network Project is also the Student Officer Training workshop.
"Student Officer Training Workshop" is focused on training and assisting officers on migrating their work onto newly elected officer and teaches them about the resources provided by IEEE, and their duties to remain an active branch.

Meeting Agenda:

DURATION	ACTIVITIES	TRAINER
9:00 AM – 9:30 AM	Registration and Continental Breakfast	
9:30 AM – 9:45 AM	Overview and Presentation of IEEE & IEEE-SEM	Don Bramlett
9:45 AM – 10:15AM	Brief Introduction about Student Branches and their members	Nevrus Kaja
10:15 AM – 10:45 AM	Brief Information Session of Roles & responsibilities of New officers	Samer Koda
10:45 AM – 11:00 AM	Break	
11:00 PM – 12:00 PM	Break out Sessions for different Officers:	
1200 PM – 1:00 PM	Lunch	
1:00 PM – 2:00 PM	Student Branch Presentation (6-8 Minutes Each) •	Student Branch Chairs
2:00 PM – 2:30 PM	Discussion Session with IEEE SEM and Student	Student Activities Chair
2:30 PM – 3:00 PM	Fundraising, recruiting and Events	Don Bramlett

Join us as a new Student Officer to explore endless opportunities and resources of IEEE
(and for the old Student Officers: please do not forget to hold Student Branch elections before October 15 !!)

Contact **Nevrus Kaja** – Chair of Student Activities, or visit the **website** below, for more information.

Please register at: **https://meetings.vtools.ieee.org/m/28049**

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2014 Fall Conference

By Basil Sherlund

The IEEE Section Fall Conference, scheduled for November 13, this year has an excellent number of technical speakers. See announcement and vTools for more information. The conference starts with the Poster Presentations by students from the Universities in Southeastern Michigan.

The Poster Presentations are followed by a Panel Discussion moderated by Dr. Hoda S. Abdel-Aty-Zohdy of Oakland University which will have excellent panelist based on the panel discussion Dr. Hoda S. Abdel-Aty-Zohdy moderated at the last Spring Conference.

The Keynote Speaker is Dr. Gregory Auner affiliated with the Strauss/TEAMS Endowed Chair and is the Director of the Smart Sensors and Integrated Microsystems (SSIM) Program Wayne State University, School of Medicine Department of Surgery and Biomedical Engineering. The presentation will consist of emerging nano science and technology for medicine. The major technological barrier to fabricate functional nanostructures is the ability to synthesize nano-structures of sufficiently small dimension, specific pattern and uniform size distribution. Most importantly, these structures must be directly fabricated into microsystems to allow functionality of the structures. Therefore, the implementations of these systems require advanced technologies to integrate the nanostructures to microsystems as well. Without such integration, the functionality of the nanosystems cannot be realized. New technology such as laser induced self-assembly of nanoarray platforms (SNAP), novel materials synthesis, and atomic-layer engineering are key for the development of devices for applications in biological and chemical sensing systems, microfluidic drug and chemical delivery systems, micro imaging systems, and chronically implantable micro and nano devices.

Mr. Gary L. Grueneberg is speaking on the topic of US Commercial Nuclear Power. Noting that US nuclear power plants have racked up an impressive 50 years of operation without one fatality compared with the other major sources of electric generation. US Commercial Nuclear Power compares to China where commercial nuclear power is used as a primary source of electric energy and in the US only a small amount of the electric energy is generated from Commercial Nuclear Power.

Dr. S. Ramesh's topic is the Design and Verification Challenges of Automotive Embedded Systems. He will address how rigorous software engineering of Automotive Control Systems is an important area of research requiring significant involvement of software engineering researchers, domain experts and practitioners which are big challenges for the engineers to build effective methods and tools for developing such systems.

A unique presentation will be by Mr. Sanjay Dhall on the topic of mobile technologies for homebuilt aircrafts and drones. Where the focus will be on Amateur homebuilt aircraft which are an inexpensive alternative for average people to enter the field of aviation. His presentation will offer some personal experiences of migrating mobile technologies for use in amateur aviation.

Read more about the SEM Fall Conference on the SEM Website at: **http://sites.ieee.org/sem/**
and register on-line at the vTools website at: **https://meetings.vtools.ieee.org/m/27391**

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Section Volunteer Options:

The Electronic Media Sub-Group of the **Communications & Marketing Committee** is looking for several new members who are willing to learn and grow into the following positions:

LinkedIN Page Coordinator
Facebook Page Coordinator
ListServ Operations Coordinator
On-Line-Community Cooridnator

Each of these positions will be an active function with significant responsibilities to maintain and facilitate communications among our members.

Interested members should use the link below to indicate your interest, and the Nominations and Appointments Committee will contact you:

https://ieee.fluidsurveys.com/s/sem committee/?code=

The **Technical Activities committee** led by Doctor **Ali Eydgahy** is seeking of experienced IEEE members to serve as 'Mentors' to help guide and encourage Chapters in our Section to achieve their full potential.

Each of these officers work with the leadership of the individual Chapters and Affinity Groups (Units) in their "Cluster" as a mentor to promote, encourage and ensure effective functioning and reporting.

We currently are searching for an officer to coordinate the Computers and Systems group:

- Ch 1 Signal Processing / Circuits & Systems / Informaton Theory.
- Ch 3 Aerospace & Electronic Systems / Communications.
- Ch 5 Computers
- Ch 14 Robotics & Automation
- Ch 16 Computational Intelligence / Systems, Man and Cybernetics.

In essence, they will serve as a 'coach' for the Unit officers.

Interested members should use the link below to indicate your interest, and the Nominations and Appointments Committee will contact you:

https://ieee.fluidsurveys.com/s/sem committee/?code=

Secretary Opportunities:
Several of the IEEE SEM Committees are in need of Secretaries.

At this time we are looking for several members who are willing to learn and grow into the Secretary positions with the following

- Technical Activities Committee,
- Education Committee,
- Communications and Marketing Committee,
- PACE Committee
- Membership Committee,
- Nominations and Appointments Committee,

Each of these positions will be an active function with significant responsibilities to maintain and facilitate communications among our members.

We are contacting our members who have are not members of any technical Society first, since participation in a Committee does not require alignment with a society as a requisite factor.

Interested members should use the link below to indicate your interest, and the Nominations and Appointments Committee will contact you:

https://ieee.fluidsurveys.com/s/sem committee/?code=

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SEM PACE

By Basil Sherlund:

PACE (Professional Activities Committees for Engineers) is a grassroots network of IEEE volunteers and committees organized at the section and chapter level in the United States to support the respective sections, regions and IEEE-USA with non-technical seminars, workshops and conferences.

A PACE event, Leadership Skills Workshop, was conducted this March at the Michigan Union on the University of Michigan campus in Ann Arbor Michigan. Don Bramlett, as the instructor, presented the workshop.

The workshop helped participants to achieve greater satisfaction and success in their careers by providing them tools to plan and manage their career as well as enhance their leadership and interpersonal skills.

The next PACE event is the Career Skills Workshop to be held at the University of Michigan Dearborn on September 13, 2014. The Workshop consists of Career Planning and Career Management and Soft & Interpersonal Skills presented by Don Bramlett and Tom Maslyk.

The purpose of this workshop is to share concepts tied to planning and managing a personal career plan.
The intended audience for this presentation is anyone who wishes to understand how to create and apply a career plan for continued career development.

Coupled with Soft & Interpersonal Skills this segment of the workshop is to share concepts about an often overlooked area - Soft Skills in the Workplace and Interpersonal Skills (Leadership). The intended audience is anyone who wishes to learn about / improve those skills that critical to everybody's success.

In the development stages now is the Student Branch Officers Training Workshop to be held at the University of Michigan Dearborn on October 26, 2014.

Previously, a limited number of volunteers were sent to the R4 Annual Section Student Congresses, one in 2013. The workshop is aiming to train as many officers as possible in the section, which are around 50 officers from the sections Student Branches.

In order to achieve that, the team is holding meetings in bi-weekly basis to prepare the event day. That will not only focus on the officer training, which will be the main part of the event, but also it will hold sessions for raising awareness about membership building, and fundraising for example.

Student Branch Offices Training will benefit the Student Branches in maintaining an active role in the section as well as continue to keep the branches aware of others around them. This will bring together all executive members and volunteers from all the Student Branches to give them a chance to exchange ideas and express their opinions.

Inactive or struggling Student Branches will be identified, and paired with more active branches in order for them to receive the proper training and procedures on how to run and expand their branch. This will assure that all branches are evenly active throughout the section..
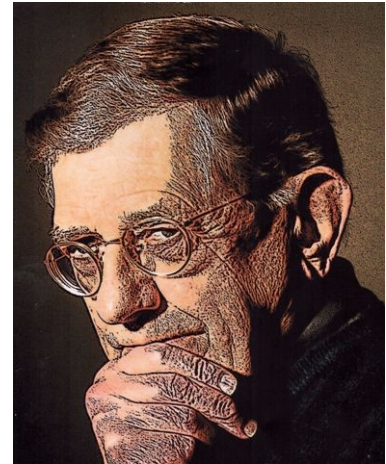
Basil Sherlund has 40 years of experience in Computer Design and Information Technology. As a professional he received a BS in Electrical Engineering, with honors, and a MS in Computer Science. He is a life member of Eta Kappa Nu, the electrical engineering honor society. He is a former member of the executive board of the IEEE Software Engineering Standards Committee, the Technical Committee on Software Engineering and has held three offices and two chapter positions in Region 4, SEM and is a member of the Educational Activities Committee for R4 and the current Chair of PACE activities for Southeastern Michigan Section.

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Robofest 2014 Report

IEEE SEM PACE sponsored Robofest had another great year. A total of 1,962 students, 567 teams from 8 countries and 10 US States participated in Robofest 2014. Each student who participated in the US qualifier received an IEEE SEM sponsored medal as seen in Figure 1. Figure 2 shows a group photo of the students wearing the IEEE medal at a qualifier in Canton, Michigan. This year, an IEEE sponsored team "Metal Robots" won the prestigious World Championship Junior Exhibition 1st Place Award. (See Figure 3) They developed WI-FI connected Mars Exploration Rovers with a variety of sensors. (See Figure 4) An IEEE flag was on a robot and their team poster had the IEEE logo to let hundreds of future engineers in the venue know about IEEE. IEEE SEM Section Chair, Robert Neff received a plaque of appreciation from Dr. Moudgil, LTU President (Figure 6). Full Robofest 2013-2014 Annual Report can be found on the web at www.robofest.net .

(Figure 1) IEEE SEM medal for Robofest 2014

(Figure 2) Canton Achieve Acadeny Qualifier

(Figure 3) Jr. Exhibition 1st place team: Metal Robots. (L to R) Lego Rep Ivery Toussant, LTU President Dr. Moudgil, Darren Tascillo, Jonathan Mi, Krishna Gogineni, Toyota Rep. Yan Liu
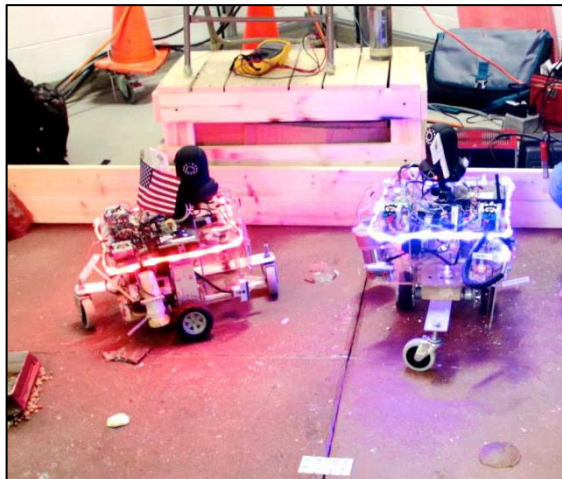
(Figure 4) Mars Exploration Rovers

(Figure 5) Team Presentation; Metal Robots' Team Sign with IEEE logo

(Figure 6) Dr. Virinder K. Moudgil, LTU President and, Robert Neff, IEEE SEM Section Chair

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Robotics Judges Wanted

Wanted: Robotics Judges for WRO (World Robot Olympiad) USA final on September 27, 2014

Lawrence Tech's Robofest has been named the USA national organizer for the World Robot Olympiad association that draws nearly 20,000 teams from 49 countries. Each participating country has its own competition and the best teams are invited to compete at the World Robot Olympiad. This year, the Olympic city Sochi, Russia is hosting WRO final in November 2014.

In the USA, State tournaments were organized in California, New York, Oregon, Michigan, Illinois, Texas, and Washington. The following photo shows a group of Judges at the Maker Faire Detroit for WRO Open Category competition. The 3rd Judge standing from left (crossed arms) is Dr. Javier Alcazar, IEEE SEM Chapter 14 Robotics and Automation Chair.

Lawrence Tech in Southfield is hosting the WRO USA final on September 27, 2014, from 8am ~ 4pm to select teams to represent the USA in Russia. We need IEEE expertise, especially Chapter 14 R & A members, to Judge for the WRO-USA final, please email robofest@LTU.edu . It is a great opportunity for IEEE SEM to lead the nation in robotics education for future IEEE members. A free T-shirt will be provided to each judge. You will also meet and network with people interested in robotics.

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Executive Committee

The SEM Executive Committee is the primary coordination unit for Southeastern Michigan (SEM) IEEE operations. The basic organization chart below shows the 2014 arrangement of communications links designed to provide inter-unit coordination and collaboration.

The SEM Executive Committee meets in a teleconference each month on either the first Wednesday or first Thursday at Noon. The specific meeting days, times, phone or WebEx numbers and log in codes are published on the IEEE SEM Website calendar: **http://sites.ieee.org/sem/** Click on the 'Calendar' button in the top banner on the Website first page.

If you wish to attend, or just monitor the discussions, please contact David Mindham, the Section Secretary at:

dmindham@ieee.org and request to be put on the distribution list for a monthly copy of the agenda and minutes.

More meeting details are available on the next page of this newsletter.

Other Meetings:
Most of our members maintain memberships in one or more of the IEEE Technical Societies, which automatically makes them members of the local Chapter which is affiliated with that Society. As a result, they should receive notices of those meetings each month.

However, most of our members are not 2-dimensional beings, with only one focused interest. That means that they would likely find meetings of the other Chapters also of interest. In order to communicate those options to our members and facilitate their attendance we ask each of our

Chapters to send their meeting information to our Webmasters who post the meeting information on the Website Calendar.

More detailed information on meetings may be found by using the IEEE meetings site. This may be found through the IEEE SEM Website: **http://sites.ieee.org/sem/** and clicking on the **SEM meetings list** button near the bottom of the left hand banner.

You may also set up automatic e-mail notifications of web updates by using the "**Email Notifications**" button at the top of the **SEM Tools/Links** side banner.

David Mindham - SEM Secretary

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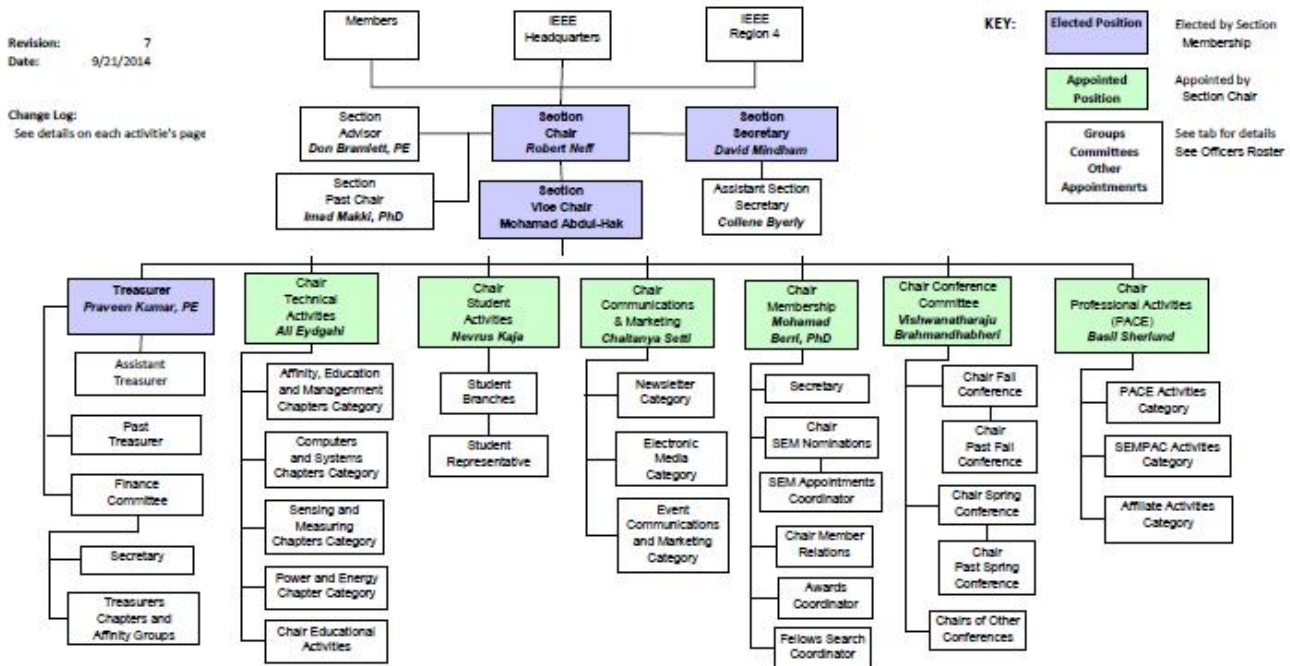
Section Mission & Goals

Section Focus:

The IEEE SEM Senior Officers of the Section have reaffirmed the overall Mission and Goals of the Section, which align with the overall objectives of IEEE worldwide and with the guidance provided by our leadership in Region 4.

You have probably seen the Mission and Goals before. However, it is important to keep these clearly in mind and remind ourselves often that this is what we are about and what we are trying to accomplish.

Section Mission
Inspire – Enable – Empower and Engage Members of IEEE at the local level.
For the purpose of:
- Fulfilling the mission of IEEE (…**foster technological innovation and excellence for the benefit of humanity**.)
- Enhancing the members' growth and development throughout their life cycle
- Providing a professional home

Section Goals
- Increase member engagement,
- Improve relationships with and among members,
- Increase operational efficiency and effectiveness, within the section and its interfaces,
- Enhance collaboration – serve as the local face of IEEE to the community,
- Increase membership,
- Ensure the collection of appropriate information necessary to assist the IEEE to become a data driven organization.

It is now the task of the Section leadership to guide and coach all Section officers and elements to focus their activities on achieving those goals.

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SEM Monthly Meetings

Scheduled Meetings:

The regular meetings of the SEM 'Leadership' (Executive Committee) are scheduled well in advance to allow everyone to place them in their personal planning calendars, and then defend those dates against encroachment. (*Not always possible.*)

Two types of Monthly meetings are normally scheduled:
Monthly Teleconference / WebEx as well as:
Quarterly Face-to-Face.(See Below)

Note: All IEEE meetings are **'Open' for all members to attend.**
The only caveat is that you please register using the specific meeting form found at:
https://meetings.vtools.ieee.org/main

This will ensure we have sufficient space, refreshments and support for everyone who joins the meetings.

Teleconference Schedule (held from 12-1 PM):
- Wednesday, September 3rd
- Wednesday, November 5th
- Thursday, December 4th

F2F Meeting Schedule:
- Thursday, October 2nd

More information for the f2f meetings will be sent out as the dates are approached. Keep in touch via the SEM Web site (**http://sites.ieee.org/sem/**) or use the links to the SEM Facebook or LinkedIN pages on the SEM Web page.

vTools Schedule:
All the normally scheduled meetings of each of the other Section 'units' are listed each month in the vTools area of our SEM website at:
http://ewh.ieee.org/r4/se_michigan/calendar1.php

These announcements refer to:
  Standing Committee Meetings:
  Affinity Group Meetings:
  Technical Chapter Meetings:
  University Student Branch Meetings:

Calendar Schedule:
Meetings are also announced on the SEM Web page Calendar
  http://sites.ieee.org/sem/
(Select the "SEM Calendar" **button** in the top row.)
Note: Often meetings of the 'Executive Committees' of Chapters and Affinity Groups (and standing committees, of course) are listed only in the 'SEM Calendar' page, since it is felt that most members would not wish to sit through the 'administrative' meetings. However, if this type of meeting is just your 'cup of tea', then contact the officers of the unit that is conducting the meeting, and ask to be 'linked' into their teleconference, SKYPE, Google Hangout, or WebEx meeting. They would be happy to have you as a participant.

Many volunteers get interested in Section activities when they get a chance to attend an Monthly meeting and 'peek under the hood' to find out how the machinery of the Section actually runs. It can be a rewarding experience.

David Mindham
SEM Section Secretary.
dmindham@ieee.org

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Editors Corner

This is the 9th 2014 issue of the Wavelengths newsletter.

Earlier editions in this series may be found on the IEEE SEM Web page at: http://sites.ieee.org/sem/. Click on the "Wavelengths" button in the top row of selections.

Comments and suggestions may be sent to the editor at k.williams@ieee.org. We also recommend a cc to the Chair of the Communications and Marketing Committee, Chaitanya Setti at: chaitanyagini@ieee.org.

The newsletter does not have a staff of reporters to 'investigate' what is going on in the Section and write up informative articles.
We rely on our Officers and Members to provide the 'copy' that we finally present to our readers as the newsletter.

The **Wavelenghts – Focus Plan and Personal Profiles** plan shown in the matrix below is conceived as a method to ensure a reasonable coverage of normally expected Section activities and events.

We try to finish each issue assembly by the week before the first of each month to allow time for review and corrections. If you have an article or notice, please try to get it to us on time or early if possible.

The plan below relies on the contributions of our members and officers, so please do not be shy. If you have something that should be shared with the rest of the Section, we want to give you that opportunity.

Letter to the Editor:

We would like to see "Letters to the Editor" as a regular column but, of course that means that someone must send an e-mail to the editor…hint!

Co-Editors:

I am selfishly looking for someone interested in helping to edit the newsletter along with me who can learn the process, share in the duties, and help keep the newsletter alive and lively by providing an alternative point of view.

If you feel you might be that person, or would like to train to become that person, please let me know.

k.williams@ieee.org

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Wavelenghts – Focus Plan:

Month	AG's	Ch's	Ch's	SB's	Specal Notice	Reporting Events	Monthly Focus	Awards
Jan		1		U/D-M	Future Cities Judges	Election Results	Resolutions	
Feb	Cons	2		MSU	Science Fair Judges	Officer's Welcome	Surviving Winter	Future Cities
Mar		3	13	U/M-AA	Spring Conf. Flyer	Spring Conference	Spring Conference	Science Fair
Apr		4		WSU	National Engrs Wk.	Future Cities	Chapter Focus	GOLD Award
May	Life	5	14	LTU	Outstanding Eng Awd	Science Fair	Humanatarian	New Fellows
Jun		6		SCC	IEEE-USA Apmts.	ESD Banquett	Leadership Skills	SEM Awards
Jul		7	15	U/W	Nominations Call	MD-Webcasts	Students Issues	Region 4
Aug	WIE	8		OU	MGA - Apmts.	Tech-Webinars	Womens Issues	
Sep		9	16	EMU	Region 4 Apmts.	Engineers Day	Professional Skills	
Oct		10		ITT	Fall Conf. Flyer		Fall Conference	
Nov	YP	11	17	U/M-D	ELECTIONS!			
Dec		12			IEEE-Com Apmts.	Fall Conference	Happy Holidays	

Wavelenghts – Personal Profiles:

Month	Profiles	Profiles	Committees
Jan	Chair	New Officers	
Feb	V-Chair	Secretary	Communications
Mar	Treasurer	Sect-Adviser	Conference
Apr	Stud-Rep		Education
May		Sr Officers	Executive
Jun			Finance
Jul			Membership
Aug			Nominations
Sep			PACE Activities
Oct			Student Activities
Nov			Technical Activities
Dec		Editor-WL	

Web & Social Sites

SEM Website
http://sites.ieee.org/sem/

Each of the sites below may be accessed through the SEM Website:

Section Website Event Calendar
(Select the "SEM Calendar" button - top row.)

SEM Facebook Page
(Select the " f " button under the top row.)

SEM LinkedIN Page
(Select the " in " button under the top row.)

SEM Officers:
For a complete listing of all - Section - Standing Committee - Affinity Group - Chapter and Student Branch **officers**, see the SEM Officers Roster on the SEM web page under the "About SEM" button and select "Current Officers".

SEM On Line Community
http://sem.oc.ieee.org

Section Officers

Section Chair
Robert Neff

Section Secretary
David Mindham

Section Vice-Chair
Mohamad Abdul-Hak

Section Treasurer
Praveen Kumar

Section Adviser
Don Bramlett

Chair Communications & Marketing
Chaitanya Setti

Chair Conferences
Raju Brahmandhabheri

Chair Educational Activities
Chaomin Luo

Chair Finance
Bassel Atallah

Chair Membership
Mohamad Berri

Chair Nominations
Chaitanya Setti

Chair Professional Activities
Basil Sherlund

Chair Student Activities
Basil Sherlund

Student Representative
Hanan Mekawy

Chair Technical Activities
Ali Eydgahi

Past Section Chair
Imad Makki

IEEE Southeastern Michigan

Visit Us on the Web at:
http://sites.ieee.org/sem

Leadership Meetings

All IEEE members are welcome to join us at any regularly scheduled meeting:

SEM Executive Committee Monthly Teleconferences:
- 1st Thursday of Each Month @ Noon
- Check the Section Web Calendar at:
  http://sites.ieee.org/sem/
  (Select the "SEM Calendar" button in the top row.)

SEM Executive Committee Face-to-Face Meetings:
- 1/Qtr. Usually held at U/M-D Fairlane Center
- Registration at:
  https://meetings.vtools.ieee.org/main

SEM Standing Committee Meetings:
SEM Affinity Group Meetings:
SEM Technical Chapter Meetings:
SEM University Student Branch Meetings:
- Meeting schedules are announced on SEM Web Calendar
  http://sites.ieee.org/sem/
  (Select the "SEM Calendar" button in the top row.)

- Registration for all at:
  https://meetings.vtools.ieee.org/main