

Wavelengths

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IEEE Southeastern Michigan Section Newsletter

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IEEE



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IEEE 125th Anniversary Celebration in SE Michigan Section



Adel Marzougui, Ph.D.
Director of Professional
Activities



It is 2009, a milestone year for IEEE, and time to celebrate our quasiquincentennial: 125 years of engineering the future. The anniversary harks back to 1884, when groundbreaking inventions such as the electric light were emerging. A small group of industry pioneers, including Alexander Graham Bell and Thomas Edison, met that year in New York City to form IEEE's predecessor society, the American Institute of Electrical Engineers. They gathered again at the International Electrical Exhibition of 1884, sponsored in Philadelphia by the Franklin Institute, to address the future needs of engineers and the burgeoning industry. Just like that event, IEEE's 125th anniversary celebration focuses on the future. Many anniversary activities are planned around the world. Some activities will acknowledge the past, but others will call attention to the ongoing contributions made by engineers and other technology professionals worldwide.

The official IEEE anniversary date is May 13, 2009. The IEEE Southeastern Michigan Section is joining in celebrating IEEE's 125 years with a

special event. The section will be hosting a Professional Development Seminar (PDS) on the evening of May 13, 2009 on Leadership and Project Management. The event will be held at the Fairlane Center of the University of Michigan – Dearborn starting at 5:00pm. It will be free of charge for IEEE members. The speakers will be Mr. Don Bramlett, our IEEE Region 4 Director and Dr. Tarek Lahdhiri, the IEEE Membership Development Committee Chair.

Come and join us in celebrating IEEE's 125 years of innovation and ingenuity and at the same time benefit from a great seminar on a very important topic (Leadership and Project Management) that can help further your career in this tough and challenging work environment that today's engineers are facing.

Please mark the event in your calendar and watch for the IEEE e-notice messages for further information on the event especially for the start of the online registration. Seats for the event will be limited so please make sure to register early.

Greetings from Robofest



CJ Chung, Ph.D.
Robotics and Automation
Chapter Treasurer

IEEE PACE (Professional Activities Committees for Engineers) sponsored Robofest is an annual autonomous robotics competition focusing on learning STEM (Science, Engineering, Technology and Math) for students in grades 5 – 12 as well as college students. Robofest challenges teams of students to design, build, and program 100% autonomous robots to compete in the Game, Exhibition, RoboFashion & Dance Show, and vision centered robot challenge categories.

This 10th anniversary year, there are 20 Michigan qualifying sites and 16 qualifying sites in many states across the nation, Canada, and UK. Asian Pacific countries will be sending teams to the World Robofest Championship on May 9th, 2009.

Team registration is now open. If you are interested in forming teams for your children, please go to www.robofest.net. Robofest is affordable and flexible. We are also looking for IEEE members

interested in volunteering at the competition sites. Please visit our volunteer registration website, <http://admin.robofest.org> to sign up at any open site.

Please contact CJ Chung at [chung AT itu DOT edu](mailto:chung@itu.edu) with any questions. Thank you for your consideration in supporting education through autonomous robotics.

Detroit Science Fair Judges Needed



Don Bramlett, P.E.
Section Advisor

For the fifteenth year, the IEEE Southeastern Michigan (SEM) Section will provide a dedicated team of judges and awards for projects related to IEEE fields of interest at the Science and Engineering Fair of Metropolitan Detroit (SEFMD). Judging for the 52nd Annual Science Fair will be conducted on Wednesday, March 18, 2009 in the Michigan Hall, on the lower level (0) or Congress Street level of Cobo Hall, near the waterfront in downtown Detroit. We will have a judges orientation meeting from 8:00 AM to 8:45 AM, and the judging will be from 8:45 AM to 12:00 noon. Bypass the normal judges check-in at the entrance and check-in with the chief judge at the "Professional Awards Judging Desk" (near the donuts and coffee), where we will also meet. Free coffee, donuts, and a small \$5 stipend for food/parking are available that day for the judges. This pleasurable and fulfilling task only takes half a day and you will be done by noon.

IEEE SEM provides judging and awards in both the Junior (middle school) Division and the Senior (high school) Division. IEEE SEM usually provides two Grand Awards, certificates and money, and a number of Honorable Mention certificates. Response from Section members willing to be judges has been outstanding each year; please volunteer to be among those to comprise the team of IEEE professional award judges.

I encourage anyone that has an interest in the science and math

education of our youth or an interest in student outreach programs to consider being a judge at the Science Fair. As a judge myself in previous years, I have found the experience of talking with the students, finding out their interests and observing their projects/presentations to be very rewarding. So come out and spend the morning with us as we meet with some of the potential engineers, scientists and Nobel Prize winners of the future.

If interested in more information concerning being a judge for the IEEE SEM professional awards at the Science Fair contact Don Bramlett at (313) 235-7549 during normal weekday business hours, or at home at (734) 591-1452 or by email at [d.bramlett AT ieee DOT org](mailto:d.bramlett@ieee.org).

General information on the Science Fair and last year's Grand Award Winners may be found on the SEFMD website www.sefmd.org. The SEFMD Committee also needs General Category Judges in the 13 categories, including Engineering, of exhibits being judged. Inquiries related to being a General Category Judge for the Science Fair organization can be made to the SEFMD office at (248) 471-9900, via email at [SF2009 AT SEFMD DOT org](mailto:SF2009@SEFMD.org), or on the SEFMD website. Public viewing of the projects will be on Thursday and Friday, March 19 and 20 from 9:00 am to 8:00 pm. Come on out and see the exhibits and talk to the students at this truly outstanding pre-college education experience.

Join us!! You'll like it!!

EMC 2008 Symposium



Kimball Williams
EMC 2008 Symposium
Chair

Symposium in Detroit?

It began as many other things begin with a single idea. "Why not bring the IEEE EMC Symposium to Detroit?" My compatriot, Scott Lytle, the Chair of our local Chapter and I had attended many such events all over the world. Everywhere we went we found friendly people, a dedicated technical community, and a warm welcome for travelers who had come a long way to enjoy companionship and healthy debate on technical issues near to the hearts of everyone present.

We began to wonder, "Why not bring this community of people together here in Detroit? But, what did Detroit have to offer?" We already knew of the local EMC community of which we were members. What else could we show to compare with the places we had seen and been enthralled with in our travels?

Enter Cheryl Ollia and Brian Walker, of the Detroit Visitors and Convention Bureau who took our cause to heart, and made it their own. All of a sudden we had lists of places to go, things to do, and people to see that would keep even the most jaded travelers wide eyed with surprise.

Where to stay?

Detroit is host to one of the finest hotels in the USA. The Detroit Renaissance Marriott Hotel is a World Class hotel, that typifies mid-western hospitality, and our event manager, Christopher Moody, personified that spirit. To accommodate those who might drive to Detroit we made arrangements with the parking structure adjacent to the hotel to provide a reduced rate for Symposium attendees. We also arranged for reduced air fares via Northwest Airlines for travelers who identified themselves

as attending the Symposium.

Presentation to the 'Board'

With this ground work laid, we took our plan to the IEEE EMC Society Board of Directors at one of its meetings in 2003. Symposium dates and locations are decided and fixed at least 5 years ahead of the event. We had already done a year and a half of planning to prepare for the presentation to the Board of Directors, and the event we were proposing was still another five years in the future.

WE GOT IT!

When it finally dawned on us that the EMC Society Board of Directors had endorsed our plan for the EMC2008 Symposium in Detroit, we were a bit stunned. By now we realized what level of work we had just signed up to complete, and at the same time realized that we needed a team, if we were to put all this together, and make it the success we knew it could be.



IEEE Welcome Sign at the Detroit Hart Plaza

Now, a caution

We had observed a number of occasions in which a successful Chapter in some part of the world took on the Symposium challenge with too few dedicated members to accomplish the task without driving

the core members into overload. Several Chapters needed to be 'revived' after hosting a Symposium, and we were determined not to have that happen here in Detroit. Southeastern Michigan (SEM) Chapter VIII already had an active meeting schedule, and we wanted to ensure that the Symposium would become a milestone on our path, not a stumbling block in the road.

The plan was simplicity itself. We would maintain the successful Chapter executive committee, and its series of meetings, colloquia, and workshops without interruption. Meanwhile, we would form an independent EMC2008 team of volunteers. The Symposium team would be staffed, as much as possible, with members of the local EMC community that did not currently have a strong commitment to the normal functioning of the Chapter. If a member of the current Chapter officer corps enlisted in the EMC2008 effort, it was made plain that the Chapter activity was still their #1 job, and that if they could not do both, they should back away from the Symposium effort, and continue their Chapter job.



Scott Lytle, the SEM EMC Chair

The plan worked!

By calling into the effort those who had not had a chance to participate in the Chapter activities before, we assembled a strong team of workers who gave their all to ensure success. At the end of the day we had a team that ran a great Symposium, while the core of the Chapter maintained a steady pace of member activities. And now, six months after the Symposium, the Chapter is still going strong, and reaching out to embrace new levels of member events that we hope will provide lasting benefits to all.

The Team

The core team that finally made the whole effort work so well came from near and far:

- [Scott Lytle](#) – Webmaster
- [Vino Pathmanathan](#) – Local Arrangements
- [Mark Ciechanowski](#) – Treasurer
- [Mark Steffka](#) – Technical Program
- [Keith Frazier](#) – Papers
- [Poul Andersen](#) – Secretary
- [Bob Neff](#) – Marketing
- [Brian Shortridge](#) – EMC History
- [Dr. Phil Fanson](#) – Volunteer Coordination
- [Mary Lou Williams](#) – Companion Program
- [Andrew Shune](#) – Social Activities
- [April Coles](#) – Reception
- [Rob Kado](#) – Gala
- [Breanne Schrebaty](#) – Awards Luncheon
- [Kendra Pridemore](#) – Transportation
- [Sreeniwas Ranganathan](#) – Registrations
- [Bogdan Adamczyk](#) – Special Sessions.
- [Amy Pinchuk](#) – Youth Program

Many other well known names in the EMC community assisted in various other capacities: [Terry North](#), [Bob Hoffman](#), [Tom Jerse](#), [Rich Wiese](#), [Tom Holmes](#), [John Mass](#), [Dan Hoolihan](#), [Ed Wheeler](#), [Mark Wisnewski](#), [Richard](#)



EMC 2008 Volunteers

Georgerian, Bill Gilmore, Mike Miller, Kin Moy, and Bill Goodwin. This does not include the 24 volunteer amateur radio (Ham) operators from the Motor City Radio Club that set up and ran a working amateur radio station in the middle of the Symposium hall for all three exhibit days.

Finally Dr. Shridhar, the assistant Provost of the University of Michigan at Dearborn as our Honorary Vice Chair lent a degree of respectability, which was badly needed by the time this crew of overworked volunteers reached the end of the trail on the last day of the Symposium.

Communications

From the beginning, it was obvious that our widely scattered members needed constant reminders of the tasks to be accomplished. Fortunately, Scott Lytle came to our rescue with a teleconference capability that allowed us to hold a planning teleconference

each month, until we got close to the event itself when we increased them to every two weeks, then every week. The teleconferences were run according to agenda, and careful minutes kept everyone up to speed, even if circumstances might have kept them away from the teleconferences for a month or two. Using this method of maintaining regular contact, we kept the major elements of the plan running smoothly right up to the opening day.



Kimball Williams and Mark Ciechanowski advertising EMC 2008

OPENING!

When all the planning is done, and the team hangs tough through it all, the major elements of the event will run like a Swiss watch. Of course there are about 1,999 things that have to be 'tweaked' each day, but the main event almost runs on auto pilot. Except for....(This is the place where the author goes off into a daydream, or nightmare, depending on your point of view.)

When the dust cleared, there are some interesting numbers to look at:

- Registrations: 2,014
- Exhibitors: 230
- Technical Papers: 143
- Special Sessions: 5 (20 papers)
- Meetings (Other): 38 Room Nights 3,467
- Social Activities: Smooth Operation
- Technical Tour: GM Chambers
- Ham Station: MCRC / W1RFI

In the end, we met all of our goals, technical, social and financial and a good Symposium goes down in history.

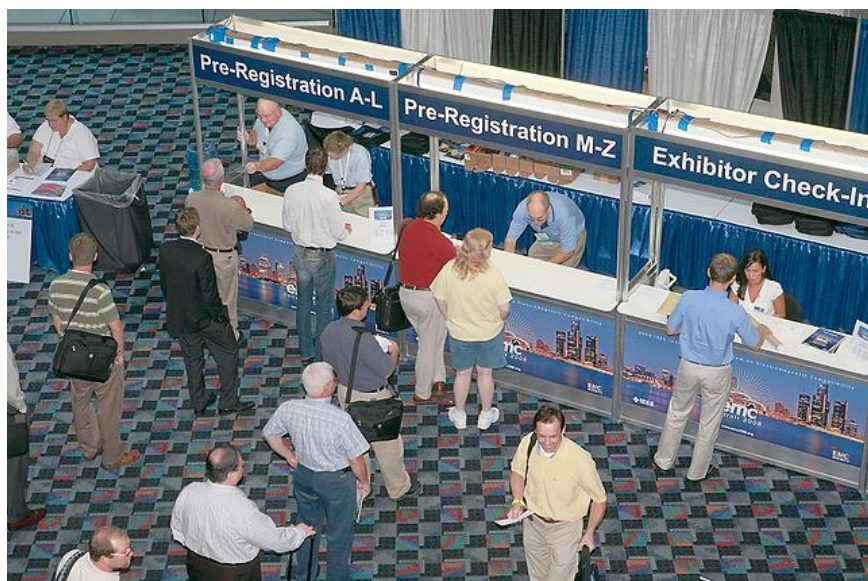
The first IEEE EMC Symposium in Detroit.

We did it!

Thank You

Now I want to add a personal thanks to everyone who helped us make this event a success. Some stopped by for an hour to help stuff bags while others pulled on the rope from day 1. But, all contributed to the overall success of the effort. As with everything else in life, they got back what they put in. Those who worked the longest and hardest learned the most from the experience, and gained in ability to organize and work under pressure. There are no schools that can teach those lessons, and I am thankful for everyone who attended this 'class' with us.

Thank you one and all!



EMC Registration Booth



Jobs, Career Management, and Employment Resources Update



Mark Ciechanowski, P.E.
Senior Past Section Chair

With the current economic crisis, it is even more difficult to advance your career and find better jobs. You are fortunate to be an IEEE member. IEEE resources can help, but you need to know where to look. This article tells you where you can find many resources.

I have been gathering job and career resource links and posting them on the Technology Management Council (TMC) web site. You can find a list of resources for members on the TMC Chapter home page at <http://www.ieee-sem.org/tmc>.

The Section maintains a job board on its web site at <http://www.ieee-sem.org>.

One of the most valuable lessons I have learned is that IEEE and IEEE-USA are different organizations. Therefore, different job and career information is located in each organization's web site. Members in the U.S. can find career information on the IEEE-USA career web site at <http://www.ieeeusa.org/careers>. This information includes jobs, career development courses, career webinars, career planning, and a link to the Employment and Career Services Online Community at <https://www.ieeecommunities.org/ecs>.

Past presentations of Sections Congress include topics on career management, soft skills, and job resources. View the presentations and recorded sessions at <http://www.ieee.org/sc2008>.

IEEE USA publishes a book called "Engineer's Guide to Lifelong

Employability". This book contains good tips about staying employable throughout your career no matter what happens to you.

Networking works. You will find many IEEE members on LinkedIn at <http://www.linkedin.com>. LinkedIn also has groups you can join. I recommend the "IEEE USA" group as well as the "The Official IEEE Group", since these groups have the most members. Many IEEE Societies also have LinkedIn groups, as well as affinity groups such as GOLD and WIE. (By the way, volunteering also helps build your network. Our Sections and its Technical Chapters have volunteer opportunities where you can do as much, or as little, as you like.)

ESD will be holding its annual Spring Engineering & Technology Job Fair coming up March 5, 2009. You can register at <http://www.esd.org>.

Our Section will be putting on many events in the coming months. April 30, 2009 is the Spring Conference with a track on employment. May 13, 2009 is the 125th Anniversary of IEEE, and we will be hosting several professional development talks that evening. In June, we will hold our annual Professional Development Seminar. See the Section web site.

You now know where to find many job resources provided by IEEE. If you find a resource that I did not mention here, email me the link and I will give you contribution credit and add it to the list on the TMC Chapter home page.

University of Windsor Student Professional Awareness Conference



Angela Sodan, Ph.D.
WIE Affinity Group Chair

The Women in Engineering (WIE) student girls at the University of Windsor organized a Student Professional Awareness Conference (SPAC) in Windsor on November 1, 2008. Professionals were also invited. The all-day workshop covered career planning, professional writing, arguments to pursue Graduate studies in engineering or computer science, and innovation for sustaining high-levels of performance. The main speaker was Jim Watson who talked about the importance and the critical points of career planning. Jim Watson, President of Watson Associates, is an experienced IEEE speaker who has given 1,750 presentations in the United States, Canada, Europe, and Asia to a total audience of over 85,000. With his presentation and practical exercises he aimed at convincing the students of the importance to think about their goals and how to accomplish them. The other speakers were David Owen,

Writing Consultant & Instructor at Academic Writing Center, University of Windsor, and Dr. Xiaobu Yuan, Graduate Chair in Computer Science, University of Windsor. Dr. Angela Sodan, Computer Science, University of Windsor, was the students' counselor for the organization of this workshop and introduced the IEEE web resources. Innovation was discussed via the IEEE Expert Now online video "What it takes to be an innovator". The workshop was with 39 participants very well attended and was well perceived.

The event was made possible by the excellent efforts and contributions of the following University of Windsor WIE girls: Xijie Zeng (SPAC Chair), Xiaorong Cao, Arniker Swarna, Wei Jin, and Cholakkal Smitha. Thanks also go to the IEEE-USA Student Professional Awareness Committee and to the section's Direct or Student Activities Aisha Yousuf for sponsoring the event.

Successful IEEE Region 4 Meeting



Mark Ciechanowski, P.E.
Region 4 East Area Support
Chair

Our new Region 4 Director, Don Bramlett, hosted the IEEE Region 4 meeting on January 23-25, 2009 at the Ritz Carleton in Dearborn. The Region meeting is an annual gathering of the Region Committee and Section Chairs from Region 4.

The committee spent most of Friday developing helpful information and answers to questions from Sections about how the Region can help Sections be more successful. The questions covered areas such as training, conferences, recruitment and retention, communications, students,

and more. The committee then reviewed these answers with the Section chairs on Saturday.

All of the Region 4 committees presented reports on their area of responsibility, including Student Branch Activities, Professional Activities, Technical Activities, Educational Activities, Membership Development, WIE, GOLD, Web Resources, and Awards. If you have Section responsibility in one or more of these areas, remember that the Region provides assistance and guidance to Sections. You can contact the

committee members directly for assistance. You can find their contact information on the Region 4 web site at <http://ewh.ieee.org/reg/4>.



Region 4 Director, Some Past Directors, and Director-Elect

In addition to the Region Committee members, the meeting was attended by representatives from all of the 23 Sections in the Region. Since the meeting was local, many of the Section Executive Committee and volunteers also attended the meeting. The breaks and meals provided opportunities for the attendees to get in some very important networking.

The next Region 4 Committee Meeting will be held in January 2010. We will most likely meet in Dearborn again next year.



Region 4 Meeting

Michigan Regional Future City Competition



Don Bramlett, P.E.
Section Advisor

The Future City Competition is held each year in association with the annual Engineers Week, this year the week of February 15-21, 2009. The winners from the 31 regional competitions participated in the finals in Washington D.C. during Engineers Week.

The 16th Annual Michigan Regional Future City Competition, coordinated by the Engineering Society of Detroit (ESD) and sponsored by the DTE Energy Foundation, the Ford Motor Company Fund and the Skillman Foundation, was held on Wednesday, January 14, 2009 at the Rock Financial Showplace in Novi. Teams of students from 23 middle schools in Michigan participated in the Michigan regional competition with their future city design projects this year. Judging of student projects was performed in the morning and early afternoon by a record number of volunteer judges.

This is the fourteenth year that IEEE/SEM Section members have served as Mentors/General Category Judges for the regional competition. This is the eleventh year that the IEEE/SEM Section has provided a dedicated special team of volunteer judges to specifically evaluate student projects for attributes associated with electrical, electronic and computer engineering related subjects. The Section sponsors the Electro-Technology Award, intended to recognize the design project that exhibits the best application of the theory and practice of electrical, electronics and computer engineering and related sciences and technologies to promote the sustainable development of the future city.

The Section wishes to thank ten (10) IEEE members and their companies/institutions, for taking the time to volunteer and help to make the Michigan Regional Future City Competition a more pleasurable and meaningful experience for the middle school students who participated.

The IEEE/SEM judging team was composed of the following seven (7) volunteers:

- Don C. Bramlett, P.E., SMIEEE, FESD also Judging Orientation Coordinator for the Michigan Regional Future City Competition) Detroit Edison (DTE Energy)
- Laurence G. Dishman, Ph.D. Wayne State University
- Charles J. Cohen, Ph.D. Cybernet Systems Corporation
- Mitch Van Ochten HandyLab
- David Morris, Ph.D. University of Michigan
- Miriam Breslauer Consultant, Software Engineer
- Nasim Chowdhri Consultant, Project Management

Other IEEE/SEM members served in other volunteer capacities:

- James Morgenstern (General Category Judge) Image Mining, Inc & LockDownIT
- Paul Ostrowski, Ph.D., CCE, SMIEEE, FESD (General Category Judge) Wayne State University
- Kimball Williams (Best Futuristic Transportation Award Judge) DENSO International America, Inc

The judges had the opportunity to view and evaluate some outstanding futuristic design projects; in particular they viewed some very interesting applications of current and predicted

technologies pertinent to IEEE-related fields. The judges and the students had the pleasure to interface and discuss in depth some of the design principles applied, problems encountered, and teamwork principles used.

The IEEE/SEM team of judges awarded **the Electro-Technology Award to St. Stephen Lutheran School of**

Waterford. The Electro-Technology award trophy was presented to the team of three presenting students, accompanied by the teacher and the engineer-mentor at the Awards Ceremony that afternoon. The three young ladies that composed the student presenting team were Chelsea Ayotte, Kenzie Kush, and Haley Shields. The supportive teacher from St. Stephen Lutheran School was Karen Fischer and the engineer-mentor was Chuck Rink of General Motors Corporation.

Their city, Pacificus, was located underwater off the coast of New Zealand. It was in the year of 2551 and there were 50,000 people living in it. The city used large turbines that harnessed the wave action in the ocean for electricity. The ocean currents are strong, so it was beneficial to build in that area. The city's location also made use of the available geothermal activity that is much a part of that area.



IEEE Electro Technology Award Presentation



St. Stephen Lutheran School Team

Countdown: 8 Months to World Solar Challenge



Dean Wisniewski, P.E.
University of Michigan
Ann Arbor IEEE Student
Branch Mentor

This second installment of COUNTDOWN examines the batteries used by solar car racers and continues the stance that solar cars are fundamentally electric drive vehicles.

First, let's take a look back to the heyday of the Electric Drive Vehicle, A.D. 1900, when 28% of US vehicle production was powered by electricity. Storage battery performance and life had improved over the batteries used for the telegraph but more improvement was desired. In A.D. 1901, at the IEEE (then AIEE) Annual Meeting, Thomas Edison proposed replacing the Lead-acid battery with a Nickel-Iron chemistry to improve battery weight, durability, and effectiveness. This new battery went into production within three years. In warm weather, the driving range was about 100 miles. Nickel-Iron-alkaline chemistry was more environmentally friendly as it yielded a much longer life, about 40 years, and was lead-free. The Ni-Fe battery's robustness in harsh environments is demonstrated by its use in mining operations. Edison's battery was able to withstand frequent cycling with negligible deterioration but initial design discharge issues effected hill-climb performance. Edison

improved performance (US Patent 1,266,780) but Lead-acid had many economic advantages.

About twenty years ago, energy dense Lithium-ion batteries became a reality and available for Consumer Electronics. In the last decade, iron has returned to prominence but this time combined with lithium as the Lithium-Iron-Phosphate (LIP) battery. For LIPs, the Lithium-ion's cobalt cathode is replaced by iron-oxide improving battery stability (safety), reducing toxicity, and improving battery life. Initial energy density is reduced but LIP degrades much slower than Li-ion and after one year of usage LIPs may have an energy density equal or higher than normal Li-ion cells.

The table on the next page lists commercially available battery chemistries that are approved for the World Solar Challenge along with their race mass maximums. Safety is the highest priority in using any battery and a Battery Protection System (BPS) which includes battery isolation contactor(s) is mandatory. Any problem that is detected should have an immediate resultant action for safety.



Thomas Edison with Ni-Fe storage batteries in the Detroit Electric (left) and Bailey Electric (right)

Battery Chemistry		Maximum Battery Mass (kg)	New Battery Energy Density (Wh/kg)	New Battery Energy (Wh)
Lead-Acid	Pb/acid	125	40	5000
Nickel-Metal Hydride	NiMH	70	80	5600
Silver-Zinc	Ag/Zn	40	130	5200
Nickel-Zinc	Ni/Zn	75	60	4500
Nickel-Iron	Ni/Fe	100	50	5000
Lithium-ion	Li-ion	25	160	4000
Lithium-ion Polymer	Li-polymer	25	200	5000
Lithium-Iron Phosphate	LiFePO4 (LIP)	50	90	4500

Electrical Isolation is required from the battery pack(s) when Over-Voltage, Over-Current, Under-Voltage, or Over-Temperature situations occur. A good battery mathematical model and control strategy should prevent operation near safety limits, provide cell leveling, and target optimum performance.

The University of Michigan used Li-ion batteries for its championship drive in the 2005 North American race. They repeated as champs in 2008 using Li-polymer batteries. To find out more, visit umsolar.com.

The next installment of COUNTDOWN will examine the electric motors used by Solar Car racers.

Go Fast, Go Smooth, Go Blue!

Chapter IV (Trident) News



Tayfun Özdemir, Ph.D.
Trident Chapter Chair

In 2008, Chapter IV (Trident) has seen an explosion of activity, which is expected to only increase in 2009. Officers have been reelected for 2009 and Dr. Lee Harle has been added to start the work on the local conference to be held in Summer of 2010.

In 2008, Chapter sponsored and co-sponsored four Distinguished Lecturers from AP and MTT societies at the University of Michigan campus in Ann Arbor. Prof. Tony Grbic's tireless efforts helped ensure smooth running of the lectures, which included Dr. Nick Buris of Motorola and Prof. Christos Christodoulou of the University of New Mexico. Quality catering was arranged and a 30 minute networking session was held prior to each talk to facilitate interaction among the attendees. A total of eight technical and 2

administrative meetings were held in 2008 and average attendance for technical meetings was 55.

In 2009, five distinguished lecturers from the three societies that the chapter represents (AP, ED, and MTT) will be hosted. Past years has seen almost no activity related to the Electron Devices (ED) society and this will change starting with 2009, when one distinguished lecturer will be hosted in Winter or Fall. Following speakers (from the distinguished lecturer programs) are planned for 2009:

- AP: John Volakis, Yahya Rahmat-Samii
- ED: John Cressler
- MTT: Andreas Cangellaris, Vijay Nair

Following local membership profile has been extracted from the IEEE database:

IEEE Members: 187

Chapter IV: 156

AP/ED/MTT: 76/58/64

Academic/Non-Academic: 57/99

Takeaways:

1. Most of the members are also Chapter members.

2. Sizable ED (Electron Devices) community: Chapter will be more active in ED (AP and MTT dominated in the past).

3. Non-academic to academic ratio is 2:1. Chapter will focus more of its efforts to cater to industry-related subjects/issues.

For more information on the chapter:

<http://www.ieee-sem.org/ChapterIV/ChapterIV.html>

Time to Think? Are You Kidding?



Bala Prasanna
New Jersey Coast Section
Past Chair

In a management training workshop that I attended recently, I was asked how I make impact in the workplace. I recall being a little awkward trying to answer, although I managed to say that I try to understand, interpret and present things in a way different from most that have looked at it, and hope this would be beneficial for the progress to be made.

This has served me well in my role as a manager, where I am layers removed from hands-on experience and need to rely on information real and perceived coming from various sources. For me to be able to consistently and constantly do this, I need to make "time to think" as a part of my daily schedule.

Thoughts and ideas produced by this "Think Time" habit will be shaped & stretched by more "Think Time".

Surviving and thriving in modern work day environment has become more challenging than ever. While we may not be working 24 hours a day, 7 days a week, we seem to be on the alert 24x7. We live in a "*lead or perish*" work environment. So, how do we get through the day, unscathed, unembarrassed, and hopefully making a positive impact?

While there are many tips & tricks for a

successful and stress-free management of career and life, making time to think should rank among the top choices.

Thoughts and ideas produced as a result of your "habit of making time to think" may save you and your organization from costly and embarrassing mistakes at one end, and at the other, you can be a hero for a million-dollar idea. Making time to think allows you to be rational, objective, and anticipatory, make a healthy assessment of how far or close to the goals or objectives you have set for yourself. It will also give you a chance to re-tone, re-tune your messages.

The need for thinking to produce thoughts and ideas suitable and relevant to your situations is for all working types. Recognizing this need and thus adjusting your behavior to make it happen will truly make you a successful and stress-free employee.

Of this, I think, there is no doubt.

Acknowledgements:

1. Bala Prasanna – Career & Life Management Skills for Success, slide presentation
2. <http://www.thepracticeofleadership.net/2005/03/12/developing-a-leadership-philosophy/> - Developing a leadership Philosophy

Call for IEEE Student Branch Mentors



Aisha Yousuf
Section Director of Student
Activities

IEEE Southeastern Michigan section is looking for volunteers to serve as mentors for our student branches. There are 10 student branches in IEEE SEM section. Student branch mentors are needed to link the student branches to the section.

According to the IEEE Bylaws, IEEE student branch mentors must be from the industry as a counterpart to the student branch advisor, which are fulltime faculty members of the university. It is preferred, although not necessary, that the student branch mentors should be a graduate from the same university and have been members of the student branch in the past. Student branch mentors should assist student branches to develop effective programs for their membership. Furthermore, student branch mentors should help provide a dependable bridge between the student branch and the section and encourage graduating student members to become active volunteers in the section. Student branch mentors should also provide students

additional information about IEEE activities and benefits and also be willing to share their professional development experiences. Mentors should also be available to attend 3 to 4 student branch meeting per academic year. Of course it is the responsibility of the student branches to make every effort to include the mentors in their activities.

I would also like to recognize Kevin Taylor for the outstanding job that he has done last few months volunteering as the mentor for the Wayne State University student branch. I would also like to thank Dean Wisniewski for Mentoring the UM-Ann Arbor student branch. We are looking for mentors for our remaining 8 student branches. Please contact me at [ayousuf AT ieee DOT org](mailto:ayousuf@ieee.org) if you are available to mentor a student branch. I'm confident that you will find your experience as a mentor rewarding. For a complete list of student branches in our section, please visit the section website.

IEEE ExpertNow Courses Offered at SE Michigan



Douglas Czinder
Robotics and Automation
Chapter Chair

The Robotics & Automation chapter, in conjunction with the Technology Management Chapter and the Computational Intelligence Chapter, has piloted two IEEE "Expert Now" events. In December, we offered the following courses: "SLAM - Simultaneous Localization and Mapping" by Henrik Christensen; "What it Takes to Be an Innovator" by Gus Gaynor; and "Computational Intelligence: Natural Information Processing" by Leonid Perlovsky. In January, we offered three more courses: "Type-2 Fuzzy Logic

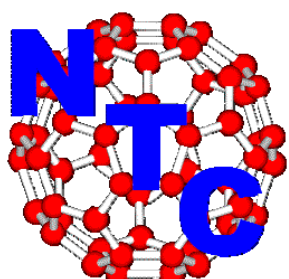
Controllers: Towards a New Approach for Handling Uncertainties in Real World Environments" by Hani Hagra; "Cooperative Control of Multiagent Systems: Synthesis and Experimentation"; by Camille-Alain Rabbath; and "A Software Design Method for Embedded Systems" by Don Berndt.

The events were held at the U of M – Dearborn Fairlane Center. Attendance was strong and feedback was positive. CEUs will be awarded to attendees. We are currently considering future

ExpertNow events. Available courses are listed on the IEEE Expert Now site: http://www.ieee.org/web/education/Expert_Now_IEEE/index.html

If you are interested in a particular course, please send your recommendations to [chair AT semrobotics DOT org](mailto:chair@semrobotics.org).

Announcements



Nanotechnology Chapter Formed

IEEE Nanotechnology Chapter (Chapter XVII) is now formed in IEEE Southeastern Michigan Section. The special thing about this chapter is that instead of belonging to an IEEE society, this chapter belongs to an IEEE council, which contains many societies. The complete list of societies is available at the Nanotechnology Council (NTC) website: <http://ewh.ieee.org/tc/nanotech/>.

IEEE Southeastern Michigan would like to thank the members who supported the formation of this chapter. The section would also like to recognize the volunteers, [Dr. Dean Aslam](#) and [Douglas Czinder](#), who put in the effort necessary to form this chapter. If you would like to get involved in this chapter, please contact Dr. Dean Aslam at: [aslam AT egr DOT msu DOT edu](mailto:aslam@egr.msu.edu).



IEEE Southeastern Michigan Section Facebook Group Formed

IEEE Southeastern Michigan Section recently formed a facebook group. This group was created to easily allow connection with the younger section members especially students and GOLD members. However, this group is not restricted to younger members. The section will try to announce all the upcoming events and activities to this group. Student branches are also

especially welcome to announce their events to the rest of the section through this group. And if you have pictures from IEEE events, you may also post these to the group. If you are on facebook, please visit the group page and join: <http://www.facebook.com/group.php?gid=61788269337>. And please invite your friends to join as well.

Call for Outstanding Student Branch Nominations

IEEE will be awarding the outstanding student branch award to a section student branch that provided excellent membership value to its student members. Nomination forms can be downloaded from: http://www.ieee-sem.org/Documents/outstanding_student_branch09.pdf. If you think that your

student branch deserves this award, please submit completed nomination forms to Aisha Yousuf ([ayousuf AT ieee DOT org](mailto:ayousuf@ieee.org)) by April 1, 2009. The winning student branch will be awarded at the IEEE southeastern Michigan Section conference in the last week of April.

Student Paper Contest

IEEE Southeastern Michigan Section will be hosting a student paper contest for undergraduate students this year. The students may participate in the

paper contest individually or as a team of up to 4 people. The primary purpose of the paper contest is to improve the communication skills of the future

engineers, therefore, the content of the paper does not need to be original. The paper contest will have two parts, the written paper and an oral presentation. Teams must be available to present their papers at the IEEE Southeastern Michigan section conference on April 30, 2009. Winners will be recognized at the conference and there will also be monetary prizes.



IEEE Senior Member Elevation

IEEE Southeastern Michigan would like to recognize two of our local members, **Qingming Jonathan Wu** and **Alexander Zaremba**, on getting

Please stay updated with your e-mails and more details will follow shortly. This is a great opportunity to get recognized for your work! Don't miss it! And it is an easy way to get recognized as you may even submit one of your class papers for this contest. If you have any questions, please contact Aisha Yousuf at [ayousuf AT ieee DOT org](mailto:ayousuf@ieee.org).

elevated to the senior member level. Congratulations Qingming and Alexander!

Advertising in Wavelengths

Wavelengths is published six times a year and sent to more than 3,500 members. These readers are responsible for specifying and purchasing a wide range of electronics components, equipment, and services.

Rates:

Size	Rate
Full Page	\$500
Half Page	\$250
Third Page	\$165
Quarter Page	\$125
Eighth Page	\$65

There is no extra charge for color. For more information, contact Aisha Yousuf at [ayousuf AT ieee DOT org](mailto:ayousuf@ieee.org)

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Classes fill quickly so register early

email cgorowski@dlsemc.com or call 847-537-6400
www.dlsemc.com/1001

Upcoming Events

Career Survival for Engineers and Scientist in the 21st Century

A 1-day career management seminar developed by the IEEE-USA Career and Workforce Policy Committee (CWPC).

Date: April 18, 2009

Time: 8:00 AM - 4:00 PM

Location: University of Michigan
Dearborn Fairlane Center North
19000 Hubbard Drive,
Dearborn, MI 48126

Cost: \$10 for IEEE student members and unemployed IEEE Members.
\$25 for IEEE members.
\$50 for non-IEEE members
(All costs membership types include Lunch)

For more information about this event, please contact Adel Marzougui at [adel_mar AT hotmail DOT com](mailto:adel_mar@hotmail.com)

The IEEE-USA and IEEE Southeastern Michigan Section care about your career development. This Career Workshop provides practical and powerful strategies to maximize your career talents presented in a positive and entertaining way. This program will open your eyes and senses to see your career in a brand new light. You cannot afford to miss this perception-changing career makeover program.

Agenda:

- 8:00-8:30 Registration
- 8:30-8:45 Welcome and Introductions
- 8:45-9:15 State of the Engineering Workplace - E. Perkins
Communicate "big picture", paradigm shift, and dynamics of job market
- 9:15-9:45 Requirements for Success in the new workplace - E. Perkins
Communicate what employers expect,

what attributes are needed to succeed. Understand market requirements, how to relate to market, your business model

- 9:45-10:15 How you can Adapt - E. Perkins
Communicate attitudes and approaches needed to respond to new workplace. Understand personal factors impacting adapting to new workplace. What are your "critical variables"
- 10:15-10:30 Break
- 10:30-11:30 Developing a career strategy for change - H. Lindborg
Developing, branding and presenting a successful career plan. Identifying and building your "value added." Recasting your accomplishments
- 11:30-12:30 Conducting a Creative job search - H. Lindborg
New ways find the right job and work opportunities. Networking, informational interviewing. Continuing education. Elevator pitch – tell me about yourself (EXERCISE)
- 12:30-1:15 Lunch
- 1:15-2:00 Closing the Deal Part I - T. Lahdhiri
Resume Development
- 2:00-3:00 Closing the Deal Part II - T. Lahdhiri
Understand interview process, what to expect, how to present yourself
- 3:00-3:15 Break
- 3:15-3:45 Emerging Future Jobs - E. Perkins
Where news jobs are coming
- 3:45-4:00 Conclusions - E. Perkins
Wrap-Up and Program Evaluation

Speakers:

Ed Perkins is the Past Chair (2007-2008) of the IEEE-USA CWPC

Dr. Henry Lindborg is the Chair of the IEEE-USA CWPC. He is a recognized expert in organizational program

development and planning, management consultant and career coach.

Dr. Tarek Lahdhiri is the co-chair of the CWPC subcommittee on Career Issues.

Robotics and Automation Chapter Event

On May 20, 2009, Robotics and Automation Chapter will be hosting Dr. Vijay Kumar of The University of Pennsylvania. Dr. Kumar is a preeminent researcher in robotics and notable for his work in SWARM robotic

technology. Location and time for this event are TBD. If you would like to be kept informed of this event, please send a note to chair@semrobotics.org. This event is part of the IEEE Distinguished Lecturer program.

IEEE SEM Spring Section Conference

The IEEE Southeastern Michigan Section (SEM) Spring Conference will be held on Thursday, April 30, 2009. The conference will be 3 - 8 PM at the Fairlane center north at the University

of Michigan – Dearborn. More details will be sent to the members via e-mails. We also encourage you to check out the section website for more details: www.ieee-sem.org

End of the School Year Student Reception

IEEE Southeastern Michigan section will be hosting a reception for students to celebrate the end of the school year. The reception will be hosted along with the spring conference, therefore, the spring conference will be free of charge for the students. The spring conference

will have a special student track which will feature speakers just for the benefit of students and giveaways. Please mark your calendar for the spring conference, Thursday, April 30, 2009, at Fairlane center North, University of Michigan – Dearborn, 3-8 PM.

IEEE Electro/Information Technology Conference

The 2009 Electro/Information Technology (EIT) Conference, sponsored by the IEEE Region 4, is focused on basic/applied research results in the fields of electrical and computer engineering as they relate to Information Technology and its applications. The purpose of the conference is to provide a forum for researchers and industrial investigators to exchange ideas and discuss developments in this growing field.

There will also be exhibits where the latest electro/information technology tools and products will be showcased. This is also an opportunity for professional activities development, workshops and tutorials. The EIT 2009 will be take place on June 7-9, 2009 in Windsor, Canada. For more information, please visit the conference website: <http://www.eit-conference.org/eit2009/>

For a complete list of section events, please visit the section online community: <https://ieeecommunities.org/ieee.semichigan>

The 5th International IEEE Vehicle Power and Propulsion Conference

Sustainability: Hybrid, Plug-in, Fuel-Cell, and Battery Technology

In the Heartland of the Automotive Industry

September 7 - 11, 2009

Ritz-Carlton Hotel and Fairlane Center

Dearborn, MI, USA

Now is the time when innovative technology concepts and solutions for Vehicular Power and Propulsion are imperative!

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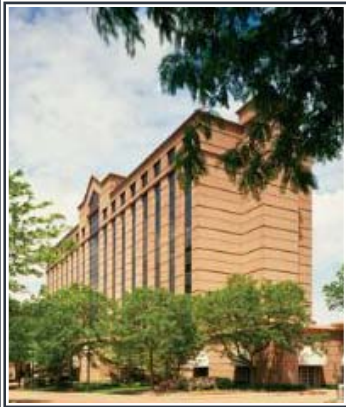
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<http://www.vppc09.org/>



IEEE





IEEE Earthzine Call for Papers on Global Energy Dependency

[www.Earthzine.org](http://www.earthzine.org) is soliciting articles for its theme issue on observing and monitoring **Global Energy Dependency**, including contributions addressing current issues, techniques and applications of **remote sensing, GIS, and Earth information** to the assessment, planning and management of energy systems. The theme issue is scheduled for the second quarter of 2009.

[www.Earthzine.org](http://www.earthzine.org) is an informative scientific webzine dedicated to promoting global interconnections among earth observers. It is sponsored by IEEE (Institute of Electrical and Electronic Engineers) in support of the Group on Earth Observation's (<http://www.earthobservations.org/>) Global Earth Observation System of Systems.

May we invite you to examine Earthzine, and to submit an article to us? We can offer as incentives participation in building the Global Earth Observation System of Systems (GEOSS:

<http://www.earthobservations.org/geoss.shtml>), and the values of being part of a professionally diverse and global readership network.

We are most interested in receiving articles dealing with innovative examples of the use of scientific and technological research and application, as well as policy and its application. Topics of interest focus on, but are not limited to,

- Current and future use of alternative sources of energy such as(see Earthzine syndicated article from The New Scientist: <http://www.newscientist.com/article/dn16419-top-7-alternative-energies-listed.html?DCMP=OTC-rss&nsref=environment>)
 - Wind
 - Geothermal energy
 - Tidal energy
 - Solar panels
 - Concentrated solar power
 - Wave energy
 - Hydroelectric dams
 - Other Sources
- Biofuels: science and technology; environmental, economic, political impact
- Oil, coal, nuclear energy present and future
- Carbon cap and trade: what is it, who does it, what will it mean?
- The power grid: what is it, how does it work, how to get off it (or share your energy with others)
- Innovative people: public figures or private individuals who are contributing to Global Energy Independence.

Earthzine is a global information and communication enterprise. We are actively soliciting articles from all regions of the globe.

Types of articles we are interested in receiving are program, project, organization descriptions; latest discoveries, unusual findings, examples of interdisciplinary and/or cross-regional research. In addition to running a review process for original content, we also publish opinions essays, book and art reviews. Please consult the Writer's Guidelines (<http://www.earthzine.org/about-2/writers-guidelines/>) for further information.

Do you have other topics to propose? Can you recommend others to contact? We would be most grateful for any assistance you can provide to www.Earthzine.org.

Please submit articles in a format compatible with Microsoft Word to Paul Racette (editor AT earthzine DOT org) beginning **March 1, 2009**

Important date:

Submission of original articles for review begins: March 1, 2009

Submission of letters, opinions, book and art reviews begins: March 1, 2009

Publication:

All accepted contributions will be published on-line at www.Earthzine.org in the second quarter of 2009 and will be freely accessible to the public. Original articles which pass the review process will be put in section 01: 'Original Articles' (www.Earthzine.org/original) in the category dedicated to 'Energy' - one of the nine societal benefit areas of GEOSS (www.Earthzine.org/category/energy).

Information:

Earthzine website: <http://www.earthzine.org>

Writer's Guidelines: <http://www.earthzine.org/about-2/writers-guidelines>

GEO/GEOSS website: <http://www.earthobservations.org>

Editor-in-Chief:

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Maeve Hickok

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Guest Editors for Energy Theme:

TBA

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