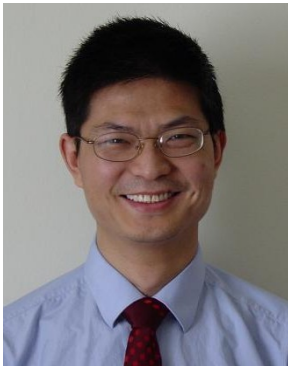




Greetings from the Chair



Chris Mi, Ph.D.
Section Chair

Hello and welcome to the first 2008 issue of the *Wavelengths*, the newsletter of IEEE Southeastern Michigan Section. I would like to thank Aisha Yousuf for taking the leadership initiative to revitalize our section newsletter, which has been an important communication tool to link the leadership of the section with its members, but was halted for a few years.

I wish to thank all the section members for electing me to the position of Section Chair. I would also like to thank the volunteers who have contributed to the success of the section. Our section has made significant changes in the past two years under the leadership of Mark Ciechanowski, and the year 2008 is sure to be a different year for many, but we are ready to continue the momentum. With the current economic condition in Michigan, global outsourcing, and flattening of the world in general, engineering jobs are threatened in the US. In order for US and Michigan to lead again, we must think out of the box to invent new ways of applying or integrating novel and existing technology to create new value for society and communities. The new economy requires the next generation engineers to be system engineers with multi-disciplinary skills, electrical, computer, telecommunications, mechanical,

In this Issue

- Greetings from the chair
- 100 Year Anniversary Extravaganza Event
- Robots in the Classroom
- WSU IEEE Student Branch Report
- Science Fair Judges Needed
- SEM Career Workshop
- Call for Student Branch Mentors
- Chapter IV Report
- Announcements
- IEEE Fellows Class of 2008
- Awards and Recognition
- Advertising Information
- Upcoming Events
- 2008 Section Officers

and civil. IEEE gives you the networking opportunities to meet, to learn, and to discuss new ideas with your peers. With technology changing so rapidly, 90% of what we learn today will become obsolete within a few years. It is imperative that engineers continue their education in order to keep up. Helping members stay current with technology is one of the main benefits IEEE provides.

My experience with IEEE started six years ago when I moved to Michigan from Canada. I was brought on board as Chair of Chapter IX "Power and Industrial Electronics" of our section. Over the years, I have served as Director of Educational Activities and Vice Chair of our section. I have found this experience rewarding. I have not only gained important contacts working

with other members and volunteers, but also enhanced my knowledge that benefits my teaching and research.

There are plenty of opportunities for you to participate and volunteer in. Our section holds two conferences a year, one in early April and the other in early November, at the Fairlane Center, University of Michigan – Dearborn. In addition, our 16 technical chapters and six committees host many other seminars and workshops throughout the year. I encourage you to attend as many of those events as possible. I think you will find them interesting. You can find a calendar of events online on the [Section website >>](#) There are two big events coming up in the next two years for our section, the Electromagnetic Compatibility 2008 Symposium and the Vehicle Power and Propulsion 2009 conference. More information can be found at the conference websites: www.emc2008.org, and www.vppc09.org. Your help is needed to make these events successful.

Our section is one of the largest in the world, and the only one across country borders to include Windsor, Canada. But our membership has dropped over the years due to the sliding economy of our region. In order to retain members, our section is trying to offer many services to its members. These include but not limited to networking opportunities, career development workshops, job opportunities, leadership skills training, professional, and technical training. We would also like to hear from you, the members and volunteers, on how we can do better.

Another place to get information about the section is at the [IEEE online communities >>](#) Make sure you [update your profile >>](#)

Finally, I would like to congratulate Kevin Taylor, the recipient of the IEEE-USA Professional Achievement Award for an Individual, for his outstanding contribution in Energy related activities in Detroit.

100 Year Anniversary Extravaganza Event



**Mark Ciechanowski,
P.E.**
Jr. Past Section Chair

The 100th anniversary of our Section is coming up in a few years. We are already well underway planning a celebration event for January 28, 2011. The Section was founded as the Michigan section of AIEE (American Institute of Electrical Engineers) in 1911. [Read more about the History of the Section >>](#)

Several other Sections in our Region have celebrated their 100th anniversary recently, including the Chicago Section, Fort Wayne Section, and Toledo Section. Those celebration events included a major keynote speaker and a dinner. We plan to hold a similarly large extravaganza.

We will invite leaders such as the IEEE President and Past Presidents, the IEEE-USA President and Past Presidents, numerous IEEE Society Presidents and Past Presidents, current and past Society Board Members, and leaders from industry, government, and academia, etc, and of course all of us, the Section IEEE members. Stay tuned for more information. You will find updates on the [Section Online Community >>](#)

If you are interested in getting involved in the planning committee for the Anniversary Event, please contact me at [mark.ciechanowski AT ieee DOT org](mailto:mark.ciechanowski@ieee.org).

Robots in the Classroom



Douglas Czinder
Chair



Robotics and Automation
Chapter

Teachers throughout the state of Michigan are coaching and training student teams to compete in various robotics challenges. From Robofest to First Lego League, hundreds of teams will compete this year alone. As a community outreach project, the SEM Robotics & Automation Chapter is developing a teacher's workshop focusing on robot programming. Our main goal is to provide teachers with formal training on Lego NXT programming. A secondary goal is to establish an informal network of teachers and engineers who collaborate on best practices for the classroom.

As part of this endeavor, we are investigating the IEEE's Teacher In-Service Program. This is described on the IEEE website as follows:

"The Teacher In-Service Program (TISP) features IEEE Section volunteers developing and presenting technologically oriented subject matter to local pre-university educators in an in-service or professional development setting. TISP allows IEEE volunteers to share their technical expertise and to demonstrate the application of engineering concepts to support the

teaching and learning of science, mathematics and technology disciplines."

Our tireless webmaster Jon is now putting the NXT bot through its paces to see what it can do. Jon will be sharing his discoveries with us at our next chapter meeting. We will then pass the bot along to another member to gain the experience necessary for teaching. Our chapter meeting will also focus on outlining the major components of our workshop and a timeline for fleshing out the lesson plans. In the interim, I will be working with Dr. Chung from Lawrence Tech and with the IEEE as we build our first TISP program. [Further Information on TISP >>](#)

We warmly welcome anyone interested in joining us, whether to provide technical or educator experience or to simply find out why robots are so intriguing. Our next meeting is scheduled for Thursday, March 13, 2008.

Meeting location details will be posted to the [section website](#) and [online community](#). Feel free to contact me at [chair AT semrobotics DOT org](#).

WSU IEEE Student Branch Report

WSU IEEE Student Branch

Chair, Alan Thomas
Vice Chair, Hasan Aatif
Treasurer, Mohammed
Kazim Yakub
Secretary, Vladimir
Dzhambazov

We are proud to be a part of the Institute of Electrical and Electronics Engineers, the largest professional organization in the World. The past year has been a busy one for the Wayne State University branch of IEEE. We organized talks, went to conferences, held soldering workshops and tried to be as active as possible in the local community.

Over the last two semesters, our branch organized several talks. We had two speaker events during the fall semester; one was on power capacitor applications and the second on the mitigation of greenhouse gasses. The speaker for the power capacitor seminar, John Harder was a Fellow of IEEE and a Registered Professional Engineer from Indiana. The speaker of Mitigation of Greenhouse Gas

Emissions was Dr. Saifur Rahman, the director of the Advanced Research Institute at Virginia Tech where he is the Joseph Loring Professor of electrical and computer engineering. He also directs the Center for Energy and the Global Environment at the University. Professor Rahman has served as a program director in engineering at the US National Science Foundation between 1996 and 1999. He is a Fellow of the Institute of Electrical & Electronics Engineers (IEEE), and a director of the IEEE Board of Governors.

We started the winter semester with a talk on solar inverters and their integration into the grid by Dr. Anil Tuladhar, Senior Design Engineer from Siemens VDO. All of our talks generated very big turnouts among the undergraduate and graduate students and prompted professional engineers from the metro Detroit area to attend the events and network with Wayne State students. We have an upcoming talk on February 20 on the trends in automotive steering systems and another talk in April. The February 20 talk is by Dr. Tomy Sebastian, another Technical Fellow of the IEEE and distinguished lecturer in the Engineering community. We are working with Dr. Nabil Sarhan in organizing a major public Computer Technology event to help undergraduate and high-school students know about the latest in computer and microprocessor technology. This event will also help recruit new students to Wayne State University College of Engineering. The event is in correlation with the Computer Organization and Design course and its final research assignment. It will be open to the public and invitations will be sent to high school students.

Apart from our engineering talks,

our branch was involved in the university, local and regional levels. Our members took the opportunity to attend seminars on embedded systems and energy efficiency. We also attended the regional IEEE Student Leadership Workshop and Ethics Competition in DeKalb, IL. The regional conference gave us new ideas about improving our organization and provided an opportunity to interact with and learn from other student branches. We have already implemented some of the ideas from the conference like our new website and recruiting plans. Last semester our branch provided an opportunity for students to learn or brush up on their soldering skills with a soldering seminar. This semester we have planned a set of three soldering seminars with increased skill and complexity, the first of which was on February 5. Finally we were involved with the PACE event last semester where various car manufacturers and auto parts manufacturers gave a presentation at WSU.

WSU IEEE participated in several community events during the Fall semester and is involved in another one right now. We collected clothes for the community project of Big Brothers Big Sisters of America which is a non-profit organization aimed at mentoring children from 6 to 18 years old. We also helped Arts and Scraps, another non-profit organization that recycles industrial scraps into materials, which are used by children to create various art projects. Currently we are involved in tutoring local high school students for the First Robotics competition in March.

Last semester two of our officers helped prepare the tutorial for a new circuits design software introduced in our ECE classes. As a result our organization and in particular our members had an early opportunity to



Soldering Workshop at WSU

get very familiar with the program. This, coupled with the fact that our computers have all the software used by the ECE department, simultaneously enabled us to provide students with a place to prepare their class projects and helped increase our membership and popularity amongst the student body.

The last year was a busy one for the WSU student branch of IEEE but we will not be content with past accomplishments. We have several upcoming talks, events such as our soldering workshops and we will keep on being involved in the community. We will continue to be active in our various services, activities and events and will continue to contribute to the lives of Wayne State students in particular and the Detroit Metro community in general.

Detroit Science Fair Judges Needed for March 12, 2008



Don Bramlett, P.E.
Section Advisor

For the fourteenth year, the IEEE-SEM Section will provide a dedicated team of judges and awards for projects related to electrical, electronics and computer engineering subjects at the Science and Engineering Fair of Metropolitan Detroit (SEFMD). Judging for the 51th annual Science Fair will be conducted on Wednesday, March 12, 2008 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 are 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) or [bramlett AT teenergy DOT com](mailto:bramlett@teenergy.com).

General information on the Science Fair and last year's Grand Award Winners may be found on the [SEFMD website >>](#) 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 or on the SEFMD website. Public viewing of the projects will be on Thursday and Friday, March 13 and 14 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!!

IEEE SEM Career Workshop



Angela Sodan, Ph.D.
Chair, WIE Affinity Group

On February 2, 2008, Angela Sodan and Mark Ciechanowski organized a career workshop for the Women in Engineering (WIE) Affinity Group, the Engineering Management Chapter, and, the Graduates of the Last Decade (GOLD) Members. The workshop was held in the Fairlane Center of the University of Dearborn.

The invited speaker for this workshop on "Planning and Networking" was Jim Watson, President of Watson associates. Jim 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.

In his first presentation, "The Ball is in Your Court", Jim pointed to the importance of setting goals and developing a career plan that may need periodic revision, students studying to learn for the future job rather than to obtain good grades, and deciding about the personally appropriate life balance.

In his second presentation, "In Search of Diamonds", Jim gave advice on preparing successful resumes by using a clear presentation and active skill descriptions, and stressed the social component in the engineering profession. The workshop concluded with a business-card exchange exercise.

In spite of poor weather, the workshop was well attended and was perceived by the attendees as valuable experience.



Jim Watson
President, Watson Associates

Call for Student Branch Mentors



Aisha Yousuf
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 full-time 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 volunteering to mentor 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 see the [section website >>](#)

Chapter IV Report



Tayfun Özdemir, Ph.D.
Chair
Trident Chapter

Chapter IV (Trident) consists of Antennas and Propagation, Microwave Theory and Techniques, and Electron Devices Societies. The Chapter started 2008 with three new officers and already booked two MTT Distinguished Speakers for its lecture series in collaboration with University of Michigan's Amateur Radio Club and Radiation Laboratory, and its speaker for the Spring Section conference. Chapter is actively participating at the monthly XCOM meetings and held its first officer meeting at Chapter level on January 28, 2008. Chapter is always looking for volunteers and

contact information is on the Section website.

2008 Officers:

Chair - Tayfun Ozdemir, Ph.D.,
President, Virtual EM Inc.
Vice-Chair - Anthony Grbic, Ph.D.,
Professor, University of Michigan
Secretary - Lora Schulwitz, Ph.D.,
Principal Engineer, General Dynamics
Treasurer - Alex Margomenos, Ph.D.,
Sr. Research Scientist, Toyota Tech.
Center

Contact info for officers can be found at the [section website >>](#)

Announcements

New Chapter Formation

IEEE Southeastern Michigan Section is pleased to announce that the formation of *Computational Intelligence Society* (CIS) chapter was approved by IEEE. We appreciate the support from all the CIS members that supported the petition and also all the non-CIS members that have supported the chapter formation. If you are interested in becoming one of the chapter officers or volunteers, please contact the current chapter chair, Aisha Yousuf, at [ayousuf AT ieee DOT org](mailto:ayousuf@ieee.org). Feedback from all the CIS members is also welcome on what kind of activities they would like to participate in.

2008 Undergraduate Student Paper Contest

The Southeastern Michigan Section will be hosting a student paper contest for undergraduate IEEE student members. Students are welcome to submit papers on any of their class projects or senior design projects. Since the purpose of the contest is only to enhance students' abilities to write about and present work that is technical in nature, the work does not need to be original. Student branch advisors and professors are requested to encourage their students to submit papers.

The deadline for submitting the paper for the contest is April 15, 2008. Presentations will be held on May 3, 2008. For more information contact Aisha Yousuf at [ayousuf AT ieee DOT org](mailto:ayousuf@ieee.org). Also, please read the [student paper contest guidelines >>](#) Just a side note, the section is also planning on hosting a party for the graduating students on May 3, 2008. More details to follow but please mark your calendars.

Outstanding Student Branch Award Nominations

IEEE Southeastern Michigan wants to recognize the student branches for their activities. Please nominate the student branch that you think deserves the outstanding student branch award for its remarkable student activities the current academic year. Student branches may also nominate themselves. There is also an award for outstanding student branch contribution. This award recognizes a student, rather than a student branch, who has made outstanding contribution to the success of a student branch. Award recipients will be honored at the next section conference on April 2, 2008.

[Nominations >>](#) must be submitted to Aisha Yousuf by March 15, 2008 at [ayousuf AT ieee DOT org](mailto:ayousuf@ieee.org)

IEEE Fellows Class of 2008

The grade of IEEE Fellow recognizes unusual distinction in the profession and is conferred by the Board of Directors upon a person with an extraordinary record of accomplishments in any of the IEEE fields of interest. The

accomplishments that are being honored shall have contributed importantly to the advancement or application of engineering, science and technology, bringing the realization of significant value to society.

Please join IEEE southeastern Michigan Section in congratulating these outstanding individuals from our section that have been selected as fellows in 2008:

Peter M. Chen

University of Michigan
Ann Arbor, MI, USA
For contributions to fault-tolerant storage systems

Dimitar P. Filev

Ford Motor Company, Research & Advanced Engineering
Dearborn, MI, USA
For application of soft computing to intelligent systems

Steven William Holland

General Motors Research & Development
Warren, MI, USA
For leadership in the industrial application of robotic technology

Ilya Vladimirovich Kolmanovsky

Ford Motor Company
Dearborn, MI, USA
For contributions to nonlinear control of automotive powertrains

Yue-Ying Lau

University of Michigan
Ann Arbor, MI, USA
For contributions to electron beam devices, coherent radiation sources, and discharge physics

Lalita Udpa

Michigan State University
East Lansing, MI, USA
For contributions to development of forward and inverse electromagnetic nondestructive evaluation methodologies

Awards and Recognition

IEEE/SEM Honors Outstanding Engineer at ESD Gold Award Banquet



Don Bramlett, P.E.
Awards Committee Chair

Each year around Engineers Week, the Affiliate Council of the Engineering society of Detroit (ESD) hosts the Gold Award Banquet to honor a distinguished individual who exemplifies excellence and professionalism in the local engineering and scientific community. This year the Gold Award recipient was **Mumtaz A. Usmen, Ph.D., PE**; Chairman of the Civil and Environmental Engineering Department at Wayne State University.

The Gold Award Banquet also affords an opportunity for each Affiliate Society to honor distinguished members of their local section or chapter before the broad engineering

and scientific community of metropolitan Detroit.

The IEEE/SEM Section honored the 2008 IEEE/SEM Section Outstanding Professional award recipient, **Nabil J. Sarhan, Ph.D.**, a Professor in the Electrical and Computer Engineering Department at Wayne State University. Dr. Sarhan's main research areas include server and network support for multimedia applications, video streaming, and computer architecture. He established the Media Research Laboratory at Wayne State. He has also been active in curriculum development and enhancement. Dr. Sarhan developed a certificate program in computer system design and programming, and

a research-oriented graduate course on multimedia computing and networking. Dr. Sarhan has a strong publication record in top conference publications and journals. He has served on various committees of several premier international conferences, and a reviewer for several technical journals and magazines.

The IEEE/SEM Section also honored a recent recipient of the IEEE-USA Professional Achievement Award, **Mr. Kevin Taylor**, a marketing professional with GL Recycling, in the electronic recycling industry. Mr Taylor is being recognized for his individual contributions in the

implementation of professional activities in the United States; in particular for conceiving and coordinating *the Future Energy Technology's Employment Challenge* career program in Detroit in 2007.

The 37th Annual Gold Award Banquet was held on Wednesday, February 27, 2008 in the Diamond Ballroom at Rock Financial Showplace at 46100 Grand River Avenue in Novi, Michigan. The evening schedule included an Order of the Engineer ceremony at 5:30 pm, cocktails (cash bar) at 6:00 p.m., dinner at 7:00 p.m. and the awards program at 8:00 p.m. More information about the event can be found at the [ESD Website >>](#)

Kevin Taylor to Receive National Engineering Award

News from IEEE-USA

Chris McManes
IEEE-USA Public Relations
Manager

WASHINGTON (12 February 2008) -- Kevin Taylor of Warren, Mich., has been selected to receive an IEEE-USA Professional Achievement Award.

Taylor, a member of the IEEE-USA Career & Workforce Policy Committee, is being honored "for conceiving and coordinating the Future Energy Technology's Employment Challenge career program in Detroit" in October of 2006. The event drew 150 attendees to the NextEnergy Center, Michigan's nonprofit alternative energy accelerator.

Dr. Leonard J. Bond, IEEE Region 6 director-elect and a Laboratory Fellow at the Pacific Northwest National Laboratory in Richland, Wash., was the keynote speaker. Dr. Bond spoke about the U.S. energy system, energy technology trends and the challenges and opportunities U.S. organizations face in meeting their needs for a talented energy workforce.

Taylor received word of his award from 2007 IEEE-USA President John Meredith, who wrote, "You have

honored IEEE with your contributions and services in the area of professional activities, and the IEEE-USA Board of Directors is very pleased to recognize your efforts by the presentation of this award."

Taylor will be honored with 21 other award recipients during the IEEE-USA Annual Meeting at the Hyatt Regency Hotel in Indianapolis on 26 April.

Taylor is the IEEE Southeast Michigan Section technical chapter chairman for the IEEE Power Engineering, Industry Applications, Industrial Electronics and Power Electronics societies.

IEEE-USA awards are presented in recognition of professional, technical and literary contributions to public awareness and understanding of the engineering profession in the United States. They are administered under the IEEE-USA Awards and Recognition Committee and approved by the IEEE-USA Board of Directors.



Kevin Taylor
Recipient of the IEEE-USA
Professional Achievement
Award

Nominations are being accepted for [IEEE-USA's 2008 awards >>](#) For more information contact Sandra Kim at [sandra.kim AT ieee DOT org](mailto:sandra.kim@ieee.org). The deadline is 31 July 2008.

IEEE-USA advances the public good and promotes the careers and public policy interests of more than 215,000 engineers, scientists and allied professionals who are U.S. members of the IEEE. IEEE-USA is part of the IEEE, the world's largest technical professional society. [IEEE-USA >>](#)

Wayne State University Student Branch Wins 3rd Place in the Regional Ethics Contest

On November 10, 2007, IEEE Region 4 hosted the second annual student ethics contest at Northern Illinois University.

The ethics contest was developed to encourage the study and awareness of professional ethics by IEEE Student Members. It includes a presentation and defense of a case analysis by teams of students. The goals of the program are to foster familiarity with the IEEE Code of Ethics and ethical concepts, to promote a model for discussing and analyzing ethical

questions, and to provide experience in applying ethical concepts to typical professional situations.

The IEEE SEM Section is pleased to recognize Wayne State University for placing third in the contest. The Winning team consisted of three members: Alan Thomas, Hasan Aatif, and Karna Jani. Please join us in congratulating them on a job well done!



Alan Thomas, Hasan Aatif, and Karna Jani of Wayne State University Receiving Certificates for Ethics Contest

DLS
EMC & Product Safety
Testing • Consulting

EMC by Your Design

An EMC Practical Applications Seminar and Workshop
(with free product design evaluation and take home computer program)

by Donald L. Sweeney and Roger Swanberg

April 3, 4, 7 and 8, 2008
Northbrook, IL

More information at
www.dlsemc.com/class301.htm

Call 847.537.6400 today to register.
(class size limited)

\$300 discount if you register by March 3, 2008

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	Single Issue 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)

Upcoming Events

IEEE 2008 Spring Conference - April 2, 2008

[More About the Conference >>](#)



Gary Beach
Publisher Emeritus of
International Data
Group's CIO Magazine

Keynote Address

2027: A Country Left Behind? Where Will America Find the Next Generation of Innovators

Bio: Gary Beach brings 28 years of information technology publishing experience and knowledge to his role as publisher of IDG's *CIO* magazine. A prolific presenter, Beach is a highly regarded spokesperson throughout the United States and global technology industry. He has testified before both the U.S. House and Senate and is frequently quoted by major media organizations such as CNN, *USA Today*, *The New York Times*, *San Francisco Chronicle* and *San Jose Mercury News*. As *CIO* Magazine's resident expert on the CIO Magazine Tech Poll, he has provided commentary to a number of media outlets including Reuters, *Business Week*, The Associated Press and CNBC. He also served as a guest commentator on NPR's "All Things Considered" program, covering topics ranging from PC recycling to improving technology education.

Chapter V: Computer

The Quest for a Petaflop Class Computer for Large-Scale Scientific and Engineering Applications

Bio: Dr. Ginsberg is an independent HPC consultant with scientific and engineering computing expertise in private industry and government research labs as well as extensive faculty experience in academia. He has focused his research and development efforts on evaluating

Prior to joining *CIO* magazine in 1997, Beach was president of two IDG publications, *Computerworld* and *Network World*. He joined IDG in 1987 after a ten year career at McGraw-Hill Incorporated.

Abstract: Fear and pain are powerful motivators. The launch of Sputnik I and II in the fall of 1957 by the Soviets was a watershed event for the resurgence of science, technology, engineering and math education in America. A resurgence that led directly to the creation of NASA, the tripling of basic science funding for the NSF and arguably to the creation of the "intergalactic computer network" the original term DARPA used to describe the internet in 1962.

What fear/pain could lead to another resurgence of science, technology, engineering and math education in America? Is there a pain, or is America too comfortable? What role and responsibility do currently employed science and engineer workers have in jumpstarting this 21st century resurgence?

hardware and software performance for large-scale scientific and engineering applications in industrial environments. He was significantly involved in General Motors' initial and continuing supercomputer efforts and was instrumental in initiating the first in-house installation of a supercomputer in the world automotive community at General Motors Research. He was so recognized by the Association for Computing Machinery (ACM) which has honored him as an ACM Fellow. He has served as a distinguished



Myron Ginsberg
HPC Consultant and
National Lecturer
HPC Research & Education

national lecturer in HPC and computational science for six professional societies. Myron has an BA and MA in Math and a Ph.D. in Computer Science. He is a member of The Councils of Advisors in HPC for the Gerson Lehrman Group which provides collaborative research and consulting to the financial community.

Abstract: The U.S. government is trying to motivate the development of innovative computer architectures to satisfy the current and future industrial, government, and academic needs for very large-scale computations. This lecture deals with the roadblocks to creating such machines, examples of some current efforts, and real-world applications that could benefit from the use of such computers.



Zed (Zhangjun) Tang
Application Engineer
Ansoft Corporation

Chapter IX, Power Electronic & Industrial Electronics

Modern Electric Machines and Drive Design – A systematic approach

Bio: Dr. Zed (Zhangjun) Tang received his B.S. in Electrical Engineering from Harbin Institute of Technology (Harbin, China) in July of 1994. He completed his M.S. at Beijing Institute of Control Devices (Beijing, China) in March of 1997, and continued on with the institute for 2.5 additional years developing gyroscope motor and control systems for various navigation platforms. From there, he moved to Potsdam, NY where he earned his Ph.D. from Clarkson University in September of 2002.

Dr. Zed (Zhangjun) Tang is a Senior Member of IEEE. In September 2002, he joined Stryker Instruments, Kalamazoo, MI as a Senior Design Engineer in Powertools Product Platform Research and Development group. He has been working as an Application Engineer for Ansoft EM products since November of 2005. He is currently located in Novi, MI.

Abstract: Presently many major industries are going through a revolutionary electric machine and

drive system redesign process because of today's highly competitive market, for example, IPM in hybrid vehicles. The availability of new permanent magnet and lamination materials, new power electronics components is making this possible. But in order to meet the design goal of lower cost and higher performances, engineers whose designs include power electronics, drives and electrical machines have to look at the entire design at a system level, to ensure an individual component design will perform well in the complicated system. Historically, these objectives have been addressed by engineering groups working independently, and often the final product failed in the integration and testing stage because key understanding of the inter operability between subsystems and even within a subsystem is lacking.

To overcome this obstacle, this topic will discuss an integrated design methodology, by using which engineers can individually design an electrical machine and then easily see and understand how the machine impacts the power electronics when integrated into drive system. Utilizing this integrated design methodology enables engineers to ensure first pass system success.

Student Activities



Jeffrey B. Rogers
University of Michigan
BSE CSE '08
Rochester Hills, MI

Jeffrey B. Rogers and Steven Hechtman, members of the University of Michigan - Ann Arbor Solar Car Team, present the fundamentals of their team's latest vehicle, *Continuum*. Both undergraduate students in the University's College of Electrical Engineering and Computer Science, Jeffrey and Steven designed the majority of the car's microprocessor based electronics. This past October, both traveled to Australia to help race *Continuum* in the 1900-mile World Solar Challenge. The two will describe the technologies used in the electrical system, and will explain the challenges the team faced in designing and racing their solar-powered vehicle.

Steven joined the Solar Car Team his first semester of college, attracted by the vehicle's advanced degree of technology and the thrill of racing. He collaborated with Jeffrey on the design of *Continuum's* electronic systems, and worked on procurement of the components necessary to build these systems. Steven was one of three drivers of the Solar Car, and is currently serving as Project Manager for the development of the team's 2009 Vehicle. His areas of interests in engineering include digital signal processing, digital circuit design, and optoelectronics.

Chapter IV: Trident

Speaker: Scott Rice
Topic to be Announced

Chapter XVI: Computational Intelligence

Speaker: Yi Lu Murphey
Professor and Chair
Electrical and Computer Engineering
Department
University of Michigan – Dearborn
Topic to be Announced



Steven Hechtman
University of Michigan
BSE EE '09
Vienna, VA

About the Speakers:

Jeff has been with the solar car team all throughout his undergraduate career. Although he helped on the 2005 national champion winning solar car *Momentum*, his main contributions have been to the design of the 2007/2008 vehicle *Continuum*. He is on the race crew for the solar car, in which his race time duties include monitoring vehicle telemetry, and maintaining and repairing vehicle electrical systems. Currently, Jeff is revising his designs for use on *Continuum's* 2008 North American race, as well as for potential use on the 2009 solar car. His areas of interests in engineering include embedded systems, software design, and rapid prototyping systems.



Nestor Rychtyckyj
Advanced & Manufacturing
Engineering Systems
Ford Motor Company

Chapter XV: Systems Man and Cybernetics

Bio: Nestor Rychtyckyj is a technical expert in Artificial Intelligence at Ford Motor Company in Dearborn, Michigan in Advanced & Manufacturing Engineering Systems. He received his Ph.D. in computer science from Wayne State University in Detroit, Michigan. His research focuses on the application of knowledge-based systems for vehicle assembly process planning and scheduling. Currently his responsibilities include the development of automotive ontologies, intelligent manufacturing systems, controlled languages, machine translation and corporate terminology management. Dr. Rychtyckyj has published over 30 papers in referred journals and conference proceedings. He is a member of AAAI, ACM, IEEE and the Systems, Man & Cybernetics Society (SMC). His email address is [nrychtyc AT ford DOT com](mailto:nrychtyc@ford.com).

Abstract: There is a common misconception that the automobile industry is slow to adapt new technologies, such as Artificial Intelligence (AI), into the manufacturing sector. In reality, many of the earliest adaptations of AI were in the automotive sector where such diverse technologies as expert systems, neural networks, genetic algorithms, and fuzzy logic were among the first to be used. In this presentation I will present an overview of how AI and knowledge-based technologies are currently being applied at Ford Motor Company within the manufacturing arena. Some of the applications that will be described include an AI-based approach for vehicle assembly process planning, an application of AI for ergonomics analysis and a system that utilizes machine translation to translate assembly build instructions for Ford assembly plants that do not use English as their primary language. I will also discuss how specific technologies, such as natural language processing, controlled languages, and ontologies, can be used to effectively deal with different types of knowledge, both structured and unstructured, that are prevalent in the manufacturing environment. The automobile industry is among the most competitive in the entire world, and the use of advanced technologies, is essential to prosper in the global marketplace.

Upcoming Chapter IV (Trident) Events

Dick Snyder
Practical Aspects of Microwave Filter Development
April 3, 2008
4:00 PM
1200 EECS Bldg, University of Michigan, North Campus
Ann Arbor, MI.

SYMPOSIUM & EXPOSITION



emc
Detroit 2008

**IEEE International Symposium
on Electromagnetic Compatibility**

August 18 - 22, 2008

Cobo Center, Detroit, Michigan

Education and Information:

- Automotive, Personal, Military and Aviation Electronics
 - 300+ Exhibits (100,000 sq.ft.)
 - Technical Sessions, Workshops and Demos
-  Global EMC University - Tutorials with CEU's
 - NARTE Workshops
- Committee Meetings, Networking, Tours and More!



FOR MORE INFORMATION:
www.emc2008.org



2008 Section Officers

Section Chair	Chris Mi, Ph.D.
Section Vice Chair	David Laurent
Section Treasurer	Kevin Taylor
Section Secretary	Randy Stevenson
Section Senior Past Chair	Sam Barada, Ph.D.
Section Junior Past Chair	Mark Ciechanowski, P.E.
Director of Technical Activities	Angela Sodan, Ph.D.
Director of Professional Activities	Adel Marzougui, Ph.D.
Director of Membership Activities	Mo Berri, Ph.D.
Director of Student Activities	Aisha Yousuf
Director of Educational Activities	Liang Downey
Section Advisor	Don Bramlett, P.E.
Section Webmaster	Scott Lytle
Section Newsletter Editor	Aisha Yousuf
Graduates of the Last Decade (GOLD) Committee Chair	Lora Schulwitz, Ph.D.
Women in Engineering Committee Chair	Angela Sodan, Ph.D.
Communications Committee Chair	Pingan He
Public Relations Committee Chair	Liang Downey
Awards Committee Chair	Don Bramlett, P.E.
Nominations Committee Chair	Mark Ciechanowski, P.E.
Chapter I Chair (Signal Processing, Circuits, and Systems)	M. Ahmadi
Chapter II Chair (Vehicular Technology)	Bruce Emanus
Chapter III Chair (Aerospace, Electronics Systems, and Communications)	Robert Desoff
Chapter IV Chair (Antennas and Propagation, Electron Devices, and Microwave Theory and Techniques)	Tayfun Özdemir, Ph.D.
Chapter V Chair (Computer)	Subra Ganesan, Ph.D.
Chapter VI Chair (Geosciences and Remote Sensing)	Mahta Moghaddam
Chapter VII Chair (Industry Applications and Power Engineering)	Kevin Taylor
Chapter VIII Chair (Electromagnetic Compatibility)	Scott Lytle
Chapter IX Chair (Industrial and Power Electronics)	Kevin Taylor
Chapter X Chair (Engineering Management)	Mark Ciechanowski, P.E.
Chapter XI Chair (Engineering in Medicine and Biology)	Darrin Hanna, Ph.D.
Chapter XII Chair (Control Systems)	Sam Barada, Ph.D.
Chapter XIII Chair (Education)	Richard Johnston
Chapter XIV Chair (Robotics and Automation)	Douglas Czinder
Chapter XV Chair (Systems, Man, and Cybernetics)	Oleg Gusikhin
Chapter XVI Chair (Computational Intelligence)	Aisha Yousuf

Contact Information for the officers can be found on the [section website >>](#)