

# Wavelengths

February, 2011 | Volume 51 | Issue 1  
IEEE Southeastern Michigan Section

## Newsletter

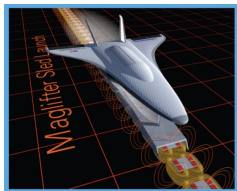
### In this Issue

NASA Speaker to Keynote at Spring Conference, page 1 • Update from Trident Chapter (MTT, AP, ED), page 1 • 100th Anniversary *Once in a Lifetime!* Event, page 2 • Wanted: Decision Makers of CAD Technologies, page 3 • IEEE/SEM Electro-Technology Award, Michigan Regional Future City Competition, page 4 • Detroit Science Fair Judges Needed, page 5 • DLSEMC Course page 5 • Computer Chapter - GI-SPIN March 10, 2011, page 6 • Call for Posters for Spring Conference, page 7 • DLSEMC Design Class, page 8

## NASA Speaker to Talk on Mag-Lifter

### Keynote at the April Spring Conference

**NASA's Glenn Research Center** is providing the keynote speaker for this year's Spring Section Conference. The keynote speaker will be Bryan Palaszewski of **NASA's Glenn Research Center** talking about **Advanced Propulsion Concepts and Electromagnetic Launch Systems**.



For over 70 years, advanced propulsion concepts studies have been conducted by worldwide propulsion research organizations. These studies and experimental programs have addressed the broad range of space

**Abstract:** For over 70 years, advanced propulsion concepts studies have been conducted

propulsion systems: from near term chemical rocket improvements, to fast interplanetary flights, to interstellar exploration. These systems include electric propulsion, laser propulsion, aerodynamic braking in planetary atmospheres, in-situ use of planetary atmospheric and regolith-based resources, and nuclear propulsion options of nuclear fission, fusion and antimatter.

Electromagnetic launchers and accelerators have a potential niche in



Bryan Palaszewski  
NASA Glenn Research Center  
Keynote Speaker

several important systems concepts: Earth launch to orbit, in-space transportation of large payloads and objects (asteroids, etc.), and lunar industrialization. The NASA presentation will provide an overview of the broad range of advanced concepts and focus on the important electromagnetic propulsion options within that broad context.

More information about the keynote speaker, as well as a download-able article on the Mag-Lifter, is available on the [Spring Conference web site](#).

The Spring Conference will be held **Thursday, April 7, 2011, 5pm-9pm** at Fairlane Center, University of Michigan-Dearborn. **Register online** beginning end of February. See also the [Call For Posters](#) on page 7. •

## Update from Trident Chapter (MTT, AP, ED)

– by Tayfun Ozdemir, Chapter Chair

Trident Chapter has grown significantly in the past three years with the induction of the new officers and a vast increase in the number of activities. An average of nine speakers were invited per year and a number of officers meetings

were held. This resurgence in the energy has culminated in the inaugural IEEE Great Lakes Technology Symposium, held in Ann Arbor, MI on September 6-17, 2010. The symposium will be repeated in 2012 and the organization committee is being formed currently. Six speakers are

being planned in 2011 and efforts are underway for soliciting contributions from the local high-tech businesses to fund the increased activities of the chapter.

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

# ***Once in a Lifetime!***

**100th Anniversary Celebration 10/11/11**

Save the date of **October 11, 2011** for this ***Once in a Lifetime!*** event.

The 100th Anniversary of the Section will be Tuesday, October 11, 2011 at The Henry Ford Museum, 6pm-11pm. The evening event includes a reception, non-technical historical presentation in the Museum's Andersen Theater, dinner in the Museum Plaza, and

private Museum visiting for the entire evening.

The keynote speaker will be Dr. Geselowitz from the IEEE History Center at Rutgers. He will present a non-technical history of the last 100-years of electronics and electrical engineering.

IEEE members get special discount

early registration price of \$90 per couple. Early registration will begin soon and includes reserved theater seating. Early registration will end at the Spring Section Conference on April 7, 2011. All of the information is on the 100th Anniversary web site at [http://ewh.ieee.org/r4/se\\_michigan/100](http://ewh.ieee.org/r4/se_michigan/100).

## ***Once in a lifetime !***

# **100th Anniversary**



**Tuesday Evening  
October 11, 2011**

The Henry Ford Museum  
Dearborn, Michigan



Web Site: [http://ewh.ieee.org/r4/se\\_michigan/100](http://ewh.ieee.org/r4/se_michigan/100)

# Wanted: Decision Makers of CAD Technologies

## PhD Researcher Seeks Product Developers

– by Randy Boone, IEEE Member

My name is Randy Boone and I'm currently working on my PhD specializing in IT. I'm looking for volunteers who work in a product development organization in either the private or public sector and are willing to spend a few minutes taking a survey to help in my dissertation research. This research is studying the behavioral factors which affect the intent to adopt innovative CAD (Computer Aided Design) technologies in a product development organization.

To research and understand these behavioral factors, the theoretical framework that I will be utilizing is the Technology Acceptance Model (TAM). The intent of this quantitative study is to examine and explain the perception-behavioral intention-behavioral relationship within the TAM framework. This insight will help researchers and practitioners to understand information technology acceptance behavior of decision makers of innovative CAD technologies in a product development organization. Below are a few of the details of my study.

**Research Purpose:** The main purpose of this study is the application of Technology Acceptance Model in order to predict and to explain the extent of which, innovative CAD technology is perceived as useful and easy to use

by decision makers in a product development organization.

**Target Population:** The targeted population for this study will be IT professionals and managers who are also decision makers in selecting innovative CAD technologies within their product development organizations and members from the Southeastern Michigan Chapter of the Institute of Electrical and Electronic Engineers (IEEE) organization.

**Research Questions:** The following are eight research question being researched for this study:

**Research Question 1:** Does perceived usefulness of an innovation significantly influence the user's behavioral intent to adopt innovative CAD technology?

**Research Question 2:** Does perceived ease of use of an innovation significantly influence the user's behavioral intent to adopt innovative CAD technology?

**Research Question 3:** Does customer perception of the innovation cost effectiveness significantly influence the user's behavioral intent to adopt innovative CAD technology?

**Research Question 4:** Does customer perception of the innovation system quality significantly influence the user's behavioral intent to adopt

innovative CAD technology?

**Research Question 5:** Does customer perception of the organizational need significantly influence the user's behavioral intent to adopt innovative CAD technology?

**Research Question 6:** Does customer perception of the innovation functional effectiveness significantly influence the user's behavioral intent to adopt innovative CAD technology?

**Research Question 7:** Does customer perception of the organizational size significantly influence the user's behavioral intent to adopt innovative CAD technology?

**Research Question 8:** Does customer perception of the innovation organizational support significantly influence the user's behavioral intent to adopt innovative CAD technology?

If you have any questions and/or would be willing to participate in this research please contact me via email at [rboone1@ford.com](mailto:rboone1@ford.com). Thank you in advance for your consideration. •

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# IEEE/SEM Electro-Technology Award Michigan Regional Future City Competition

– by Don Bramlett PE, SMIEEE -  
IEEE/SEM Section Advisor

The Future City Competition is held each year in association with the annual Engineers Week, this year the week of February 20-26, 2011. The winners from the 39 regional competitions participated in the finals in Washington D.C. during Engineers Week.

The 18th 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 Monday, January 31, 2011 at the Suburban Collection Showplace (formerly Roc Financial Showplace) in Novi. Teams of students from 40 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 sixteenth year that IEEE/SEM Section members have served as Mentors/General Category Judges for the regional competition. This is the thirteenth 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 IEEE-SEM 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 seven (7) 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 six (6) volunteers:

Don C. Bramlett, PE, SMIEEE, FESD, FMSPE (also Judging Orientation Coordinator for the Michigan Regional Future City Competition) Detroit Edison (DTE Energy)

Sat Basu, DTE Energy (retired)

William Becher, Ph.D., University of Michigan (retired)

Laurence G. Dishman, Ph.D., Wayne State University/Eastern Michigan University

Charles J. Cohen, Ph.D., PMP, Cybernet Systems Corporation

David Morris, Ph.D., Mitre

Other IEEE/SEM members served in other volunteer capacities, including:

Paul Ostrowski, Ph.D., CCE, SMIEEE, FESD (General Category Judge), Wayne State University

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 Birmingham Covington School in Birmingham. 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.

This is the first year that Birmingham Covington School has participated in the Michigan Regional Future City Competition. It was quite a thrill for them to be awarded the IEEE-SEM Section sponsored Electro-technology award. The name of their future city was Triple H City, for Health, Happiness and Healthcare. The sources of electric power for the city were solar, wind and hydroelectric. The serene city parks, numerous roof-top gardens and plentiful agricultural areas help to provide for a pleasurable life style and adequate food requirements. Timely health monitoring is provided by use of a nanotechnology based sensor device, called Senshinex, embedded in each resident. The three presenting student made a very interesting presentation to the competition judges. •

# DETROIT SCIENCE FAIR JUDGES NEEDED FOR MARCH 16, 2011 !!

- by Don Bramlett PE, SMIEEE -  
IEEE/SEM Section Advisor

For the seventeenth year, the IEEE-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 54th Annual Science Fair will be conducted on Wednesday, **March 16, 2011** 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.

Due to support from Robert Bobb and increased interest in Science, Technology, Engineering and Math (STEM) education, the number of participating schools and projects is expected to increase dramatically from last year.

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@ieee.org](mailto:d.bramlett@ieee.org) or [bramlettd@dteenergy.com](mailto:bramlettd@dteenergy.com).

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 via email at [SF2011@sefmd.org](mailto:SF2011@sefmd.org), or on the SEFMD website, [www.sefmd.org](http://www.sefmd.org).

General information on the Science Fair and last year's Grand Award Winners may be found on the SEFMD website [www.sefmd.org](http://www.sefmd.org). Public viewing of the projects will be on Thursday and Friday, March 17 and 18 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!! . •

In response to popular request

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[www.dlsemc.com/1001](http://www.dlsemc.com/1001)

# IEEE Computer Society Chapter Recommends:



The Great Lakes Software Process Improvement Network  
and our Gold Sponsor, Broadsword, present

## “The Release Planning Game” led by Chet Hendrickson

### Abstract:

How do our project planning decisions effect the bottom line? This interactive session will use a combination of a brief presentation and competitive exercises. The Release Planning Game will be used to explore various project planning strategies, with approximately four players on each team. In each cycle of the game, the players plan and implement a product. Through experience, the players will learn some new lessons enabling them to plan and implement better next time. Scoring is based upon each team's total return on investment.

### Biography:

Chet Hendrickson was at Extreme Programming's ground zero, the Chrysler Comprehensive Compensation (C3) system. As a developer on the pre-XP C3, Chet saw how poor communication, inadequate testing, and an overly complex design can doom a development effort. He is an author of *Extreme Programming Installed*. The book consists of a collection of essays, presented in the order the practices would actually be implemented during a project. Chet is a consultant, coach, and Certified Scrum Trainer. Contact him at: [chet@hendricksonxp.com](mailto:chet@hendricksonxp.com).

### Date and Location:

**Thursday, March 10, 2011**

The Meeting follows Networking and Light Supper starting at 6:00 p.m. at

[UM - Dearborn - Fairlane Center Campus](#)

19000 Hubbard Dr  
Dearborn, MI 48126

Please RSVP to [info@gl-spin.org](mailto:info@gl-spin.org) by 6:00 a.m. the day of the meeting.  
If your RSVP-name is drawn and you are present at the meeting,  
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Visit us on the web at [www.gl-spin.org](http://www.gl-spin.org)

# Call For Posters - Spring Conference

IEEE GOLD Affinity Group Poster Session, April 7, 2011

– by Dr. Lora Schulwitz, Posters Chair

IEEE GOLD will be hosting a poster session for all IEEE GOLD and student members at the upcoming IEEE Spring Section Conference on April 7, 2011 at the Fairlane Center, University of Michigan-Dearborn. All student, graduate student, and GOLD (graduates of the last decade) members are invited to participate. A best poster award will be given to the top presented poster, as judged by the review committee. Poster

topics related to any of the chapters / societies represented in the IEEE Southeastern Michigan Section ([www.ieee-sem.org](http://www.ieee-sem.org)) are encouraged. Poster participants will be given complimentary registration to the conference and awards dinner.

Authors wishing to participate in the poster session must submit a poster title and abstract (less than 150 words) to Lora Schulwitz ([schulwitz@ieee.org](mailto:schulwitz@ieee.org)) by no later than **March 21, 2011**. The suggested poster size is 4 feet by 3

feet, and should contain large text to be read from a distance. Poster authors should attend and present their posters during the poster session from approximately 5:45 pm until 6:45 pm on the day of the conference.

This is a great opportunity for IEEE GOLD and student members to be recognized for their work and to network with IEEE members in Southeastern Michigan! Questions regarding the IEEE GOLD poster session may be directed to Lora Schulwitz. •



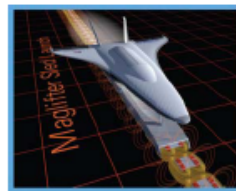
**Spring Section Conference**  
Thursday April 7, 2011 5pm to 9pm

Fairlane Center, University of Michigan  
Dearborn, MI

**Technical Speaker Tracks**  
**Student Technical Posters**  
**Vendor Table Displays**  
**Dinner**

**Keynote Address:**  
**Advanced Propulsion**  
**Concepts and Electro-**  
**Magnetic Launch Systems**

**Bryan Palaszewski**  
**NASA Glen Research Center**



For over 70 years, advanced propulsion concepts studies have been conducted by worldwide propulsion research organizations. These studies and experimental programs have addressed the broad range of space propulsion systems: from near term chemical rocket improvements, to fast interplanetary flights, to interstellar exploration. These systems include electric propulsion, laser propulsion, aerodynamic braking in planetary atmospheres, in-situ use of planetary atmospheric and regolith-based resources, and nuclear propulsion options of nuclear fission, fusion and antimatter.



Electromagnetic launchers and accelerators have a potential niche in several important systems concepts: Earth launch to orbit, in-space transportation of large payloads and objects (asteroids, etc.), and lunar industrialization. The NASA presentation will provide an overview of the broad range of advanced concepts and focus on the important electromagnetic propulsion options within that broad context.

**Web Site and Registration:**

[http://ewh.ieee.org/r4/se\\_michigan/Spring2011](http://ewh.ieee.org/r4/se_michigan/Spring2011)

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Director of Student Activities	Trisha Taylor
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