



# The SpartIEEE

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## Upcoming Events

- January 31st: Technical Presentation, room 1145, 6pm-7pm
- February 5th: Video Game Tournament
- February 19th: SPAC, Kellogg Center
- February 24: SET Day, 10:00 a.m. to 1:00 pm

Please visit [www.egr.msu.edu/ieee](http://www.egr.msu.edu/ieee) for more information on these events.

## Fall 2006 SEM Conference

By Shannon Nicley

IEEE E-board members were pleased to attend IEEE Southeastern Michigan's biannual Section Conference and Dinner on November 2<sup>nd</sup>, 2006, at the Fairlane Center in Dearborn. This fall's conference featured keynote speaker John Ford of the National Radio Astronomy Observatory (NRAO) who gave an exciting presentation on the Robert C. Byrd Green Bank Telescope (GBT). The GBT is a radio telescope 100 m in diameter, located in Green Bank, WV. It is the world's largest fully steerable radio telescope, and the most sensitive dish in at high frequencies.

Using the GBT, scientists have located the fastest spinning pulsar discovered and mapped a "super bubble" of gas moving out of the milky way, among other discoveries. The GBT is so large that it had to be very carefully designed and constructed, and is a highly optimized structure. In addition to the keynote presentation, there were two technical sessions participants could attend, where speakers from the various SEM chapters spoke on a wide variety of topics, including hybrid vehicle



modeling, robotics, EMC, control systems, computer game development and communication systems.

The conference also featured a number of information tables set up by various companies and organizations, giving participants an opportunity to network with other IEEE



members. The MSU E-board set up a display table, and had the opportunity to speak with a number of conference participants and corporate representatives about activities at MSU. The SEM conference also hosted winners of several robotics competitions for students from elementary through high school, who were proud to show off their

## IEEE Links

MSU Student Chapter  
SEM Website  
Region 4 Website  
IEEE National Website

## Further Information

*Wavelengths*  
**A newsletter published eight times per year by the Southeastern Michigan Section of IEEE.**

*The Institute*  
**A report on news around the IEEE.**

*IEEE Spectrum Online*  
**The member publication of the IEEE.**

*What's New @ IEEE For Students*  
**Check out this publication that is written monthly for students.**

## Contact Us

IEEE-MSU Student Chapter  
2308C Engineering Bldg.  
(517) 432-3077  
ieee@msu.edu

winning robots.

The Southeastern Michigan Conference and Dinner was an excellent experience for all participants, and the E-board is looking forward to the next SEM Section Conference and Dinner, coming up on March 29<sup>th</sup>.

More information about the GBT is available at <http://www.gb.nrao.edu>.

## Reaching Out

By Ali Aqel

Over Winter Break, I had an opportunity to visit my alma mater, Harbor Beach High School, and reconnect with the place that helped shape who I am today. It wasn't any regular visit, however, as I was there for the purpose of presenting to the inquiring minds of high school students information about engineering from an engineering student's prospective. From 8:30 AM to 2:30 PM, I entertained the questions of freshmen, sophomores, juniors, and seniors alike and did my very best to open their eyes to the possibilities that await them.

What I found interesting was the difference in the audience attitude towards what I had to say. The classes with a majority of seniors were more focused on the career information as they already had decided on where they are going. The juniors and sophomores seemed very interested in the career information and my discussion about the merits of going to the Big Ten institution. The freshmen were very interested in what I had to say about the years that lie ahead of them.

In the end, when I walked out of my old high school, I felt that I too had gained something. By coming into Harbor Beach High School, I gained the feeling that I have given something good to the students that sit in the same place I sat two years ago. By giving them the opportunity to see the wide options available to them in the field of engineering, they now know that there are more careers that they can pursue beyond those located in the small town of Harbor Beach.

## Flying the IEEE Blimp

If you have attended an Ice Hockey game at Munn Ice Arena or a



woman's volleyball game at Jenison Fieldhouse over the last few years, you have probably noticed the large white blimp that flies over head during intermissions dropping prizes on the crowd. What you may not have known is that this blimp is actually maintained and operated by IEEE

## Did You Know... The MSU Engineering Building burned down in 1916.

Built in 1907 and in use for only eight years, the Engineering Building was the most prominent building on campus when on Sunday morning, March 5, 1916, fire destroyed the structure and neighboring mechanical shops.

[http://www.msu.edu/~msuarhc/building\\_exhibit.htm#build11](http://www.msu.edu/~msuarhc/building_exhibit.htm#build11)

members at MSU. The blimp is sponsored by Shaheen Chevrolet of Lansing and is flown by IEEE members at nearly all ice hockey and volleyball games during the late fall and early spring of each year. In past years, a team of five Electrical Engineering students (three of whom were IEEE executive Board members) added a remote controlled video camera to the blimp that could wirelessly transmit video to the big-screen scoreboard television at the Munn Ice Arena. This season, IEEE blimp chair, Don Restauri, and a few helping hands have been working hard to ensure that the blimp is in the air at every hockey game possible. Although the video equipment has not yet been utilized at a live hockey game, be on the lookout for this new feature during upcoming semesters. If you are interested in helping fly the blimp or just learning to fly for fun, contact Don at [restaur2@msu.edu](mailto:restaur2@msu.edu)

## How I Obtained My Internship

To help students with their ongoing quest for an out of classroom experience, each SpartIEEE will highlight the process of an ECE student in obtaining their internship.

**Name:** Don Restauri

**Graduation Date:** May 2008

**Major:** Electrical Engineering

**Company:** Kostal of America (Automotive Supplier; [www.kostal.us](http://www.kostal.us))

**Location:** Novi, MI

**Dates of Internship:** May 25, 2006 – Aug 18, 2006

**Job Title:** Electrical Systems Engineer Intern

**How did you find your internship?** Networking! See Advice Below

**Did you have a technical portion to your interview?** Yes, not highly technical though.

**If so, what sorts of questions did they ask?** I was asked to identify parts on a Steering Column Module, like photo sensors and LEDs. I had two interviews that day, and it seemed more that they were trying to sell the job to me, rather than me trying to sell myself to the company. However, keep in mind that it is not always like this.

**Length of interview:** 2 hours

**Type of interview (phone, in person):** In person

**Time it took to hear decision after interview:** 2 Days

**What did you do at your internship (no more than 4 sentences):**

Soldered complex circuits together, some PCB design using CirCAD, installed and troubleshot a "Pinch Protection" enabled window module, and was introduced to various other automotive applications.

**How much technical knowledge were you expected to have:** I was not required to have an extensive technical background. Companies know that interns (especially first time interns) have very limited knowledge on technical topics, and that a majority of the intuition is gained through experience not through reading a text book. Much of my work I did on the internship required little technical knowledge. For example, soldering or taking a door of an Explorer and installing a different door on it.

**Types of training you received:** None, but it's not always necessary. The only thing that I got on my first day was a tour and a few introductions. The most important thing to get from your first day is knowing who you can talk to.

**What MSU courses helped you with your internship?** Mostly simple courses like 201, 202, and 302. But I also found that all the programming for the modules are done in C so having taken CSE231

helped a ton too. Only basic knowledge was required in each case.

### **Any advice to students looking for their first internship?**

Networking is huge! I spent an entire year applying and being active in my searching before I got my first internship. It came down to the last month of class before summer break, and I still had no internship. One day while I was doing my homework at Panera Bread, I talked a gentleman about really irrelevant things like mopeds of all things and some of the student organizations I was involved like the IEEE, and by the end of the conversation he asked me to send him my resume to forwarded it to some companies he knows that were hiring. The moral of the story is be sure to keep an open mind about finding an internship and always compose yourself professionally in all aspects of your life, because you never know when it could land you that job. Also, get involved with student organizations! A good GPA doesn't mean much to an employer compared to the value of being able to hold a conversation, multi task, and be part of a team.

## MSU Hosts First LEGO League Challenge

By Mark Seal

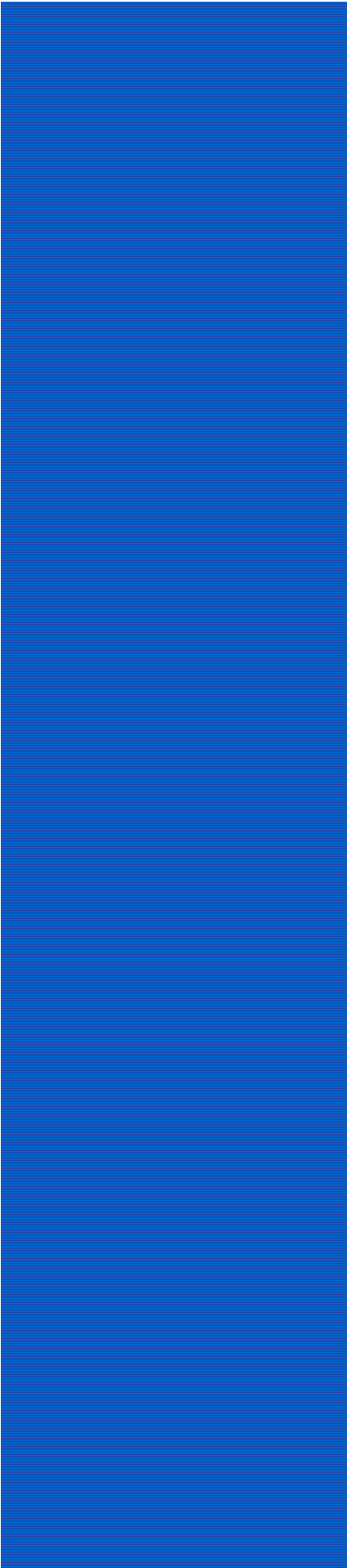
Teams from Mid-Michigan elementary and middle schools participated in the Spartan FIRST (For Inspiration and Recognition of Science and Technology) LEGO League Challenge November 18 at MSU. The students competed in building autonomous robots using identical supply kits provided by LEGO Mindstorms Robotics Invention System. Volunteer judges and referees from Shell Oil Company, along with faculty and students from the MSU College of Engineering pitched in to help run the event.



The purpose of FIRST LEGO League is to get young people excited about science and engineering. Shell Oil Company contributed \$33,000, which enabled the MSU College of Engineering to sponsor 10 teams for the event. Six of the 15 participating teams will advance to the state championship, which will be held Dec. 16 at Carman-Ainsworth Middle School in Flint, Michigan.

Teams of elementary and middle schools students designed, built and programmed robots made from Legos during the FIRST Lego League tournament on Nov. 18, at MSU.

With the help of Lego Mindstorms Robotics Invention System kits – consisting of Lego bricks, motors, sensors, gears and software – the students, ages 9 through 14, learned engineering and computer programming principles while creating fully autonomous robots that were capable of performing specified, theme-related tasks. This year's theme was "Nanotechnology".



One of IEEE's members, Mark Seal, volunteered to coach a team this year. Every Sunday, students from Red Cedar Elementary would come to the Engineering building and work on their robot. There are three parts to doing well in the competition. First they have to have a well programmed robot that completes certain tasks with Legos. The team also has to present to a group of technical judges about what they learned about their robot. The last part to the competition is the research project. This year's research theme was nanotechnology which is a growing field in engineering and will help make great technological advances in the future.

Qualifying teams will advance to the state championship tournament Dec. 16. FIRST (For Inspiration and Recognition of Science and Technology) is a multinational, nonprofit organization that aspires to transform culture, making science, math, engineering and technology as cool for kids as sports are today.