



www.mirobotics.org

## Michigan Celebrates National Robotics Week – 12 April 2011

### *National Robotics Week*

Michigan Celebrates National Robotics Week is an event geared toward promoting robotics technology awareness and excitement as well as providing an opportunity for STEM related activities and outreach. This is Michigan's first event in support of the second annual National Robotics Week. National Robotics Week has been congressionally declared as the second full week of April each year.

### *Agenda*

This action packed day includes an introduction by the President of NCMS, and two keynote presentations by the Chief Scientist for Army Ground Robotics and one of our Michigan Congressmen. There is an industry panel that will discuss the future of robotics in several cross cutting disciplines. After a networking lunch, the team from University of Michigan and Soar Technology will demonstrate the technology that earned their prestigious MAGIC 2011 win. This exciting demonstration will be available via live webcast to schools across the State who cannot attend in person. Following this, a panel of technical experts will discuss robotics challenges, and will help several on-site student teams solve a robotics problem.

Please see the attached flyer for more details and times for each event.

### *Off-Site STEM Activities*

There are three basic STEM agenda items for student participation:

1. **MAGIC demo by the University of Michigan and Soar Technology.** There are two ways that schools can do this. The first is synchronous with a live webcast which is planned for right after lunch (around 1pm). The second is asynchronous and will include viewing a prepared video at any time during the day. Schools should choose one of these two tracks...either the live webcast or the video presentation.
2. **Robotics Related Activity.** The second agenda item is performing a robotics related activity for 30-60 min at some point during the day. The students on site at the event will do this directly following the MAGIC demonstration, but schools across the State could do this at any time that fits into their schedule. A resource guide of activities broken by age groups is suggested below. Teachers may also choose to explore and find their own activity and several online resource sites have been included for this purpose. *(NOTE: It is possible that there could be robotics industry volunteers available to help students at the schools perform their activity, but this is not firm yet.)*
3. **Post Experiences!** All students that participate are asked to post their experience from the day. This could be pictures of them completing the activity; it could be thoughts on how they enjoyed the experience; or it could be an explanation of the robotics technology they are most interested. The sky is the limit on this. Postings can be by student or by school. Postings will be hosted on the Michigan National Robotics Week Facebook Page.

We would like to see as much Michigan K-12 participation as possible. This is a great opportunity for students to get excited about STEM with such a cool technology as robotics.

To participate, or for more information, please contact Phil Callihan, National Center for Manufacturing Sciences, at [philc@ncms.org](mailto:philc@ncms.org), or Sara Blackmer, Michigan Defense Center, at [blackmers@michigan.org](mailto:blackmers@michigan.org).

### *Resource guide of robotics related activities:*

Resources have been found on the National Robotics Week website (<http://www.nationalroboticsweek.org/resources>) and iRobot's SPARK website ([http://spark.irobot.com/educational\\_resources](http://spark.irobot.com/educational_resources)).

Some activities listed require little to no additional resources, some require internet access, some require advanced preparation. Feel free to modify these activities to best fit the needs of you and your students. More ideas can be found on the above websites. The following are simply a sampling of compelling activities related to engineering in robotics.

#### **High School**

- Internet Robotics Scavenger Hunt - <http://spark.irobot.com/materials/HighSchoolScavengerHunt.pdf>
- Build 1 of 6 simple bots. Click on the picture of the bot you wish to build and it will provide a resource list and step by step instructions to build. <http://www.instructables.com/id/Simple-Bots/>
- Prepare a robotics theme related book report (see suggested book list attached)
- Robo World. Many educator lesson plans to choose from all broken by smaller age groupings. These lesson plans mostly use readily available materials, and some are entirely computer-based. Feel free to download the lesson plans for use in your classroom, and be sure to look at all of the lesson plans - many of the activities are highly adaptable for students in other grades. <http://www.visitroboworld.com/visitroboworld/lessonplans.aspx>
- Make a Bristle Bot - <http://www.evilmadscientist.com/article.php?story=bristlebot>
- Introduction to the engineering design process using paper airplanes (teacher's ppt and student's data sheet are attached).

#### **Middle School**

- School Robotics Scavenger Hunt - <http://spark.irobot.com/materials/MiddleSchoolScavengerHunt.pdf>
- Build 1 of 6 simple bots. Click on the picture of the bot you wish to build and it will provide a resource list and step by step instructions to build. <http://www.instructables.com/id/Simple-Bots/>
- iRobot WebQuest Activity (teacher's ppt and student's activity sheet attached)
- Prepare a robotics theme related book report (see suggested book list attached)
- Robo Info: Fun Facts and Activities. Lots of cool things to choose from in here. Workbook attached
- Robo World. Many educator lesson plans to choose from all broken by smaller age groupings. These lesson plans mostly use readily available materials, and some are entirely computer-based. Feel free to download the lesson plans for use in your classroom, and be sure to look at all of the lesson plans - many of the activities are highly adaptable for students in other grades. <http://www.visitroboworld.com/visitroboworld/lessonplans.aspx>



## Elementary School

- School Robotics Scavenger Hunt - <http://spark.irobot.com/materials/ElementaryScavengerHunt.pdf>
- iRobot WebQuest Activity (teacher's ppt and student's activity sheet attached)
- Edible Robots (craft) - [http://www.activityvillage.co.uk/edible\\_robots.htm](http://www.activityvillage.co.uk/edible_robots.htm)
- Read a robotics themed story book (see suggested book list attached)
- Make a junk robot craft - [http://www.activityvillage.co.uk/junk\\_robot.htm](http://www.activityvillage.co.uk/junk_robot.htm)
- LEGO engineering - [http://www.legoengineering.com/index.php?option=com\\_content&view=article&id=92&Itemid=144](http://www.legoengineering.com/index.php?option=com_content&view=article&id=92&Itemid=144)
- Robo World. Many educator lesson plans to choose from all broken by smaller age groupings. These lesson plans mostly use readily available materials, and some are entirely computer-based. Feel free to download the lesson plans for use in your classroom, and be sure to look at all of the lesson plans - many of the activities are highly adaptable for students in other grades. <http://www.visitroboworld.com/visitroboworld/lessonplans.aspx>

