

What is SORSA?

SORSA began as the Southern Oregon Robotics Club (SORC). It was founded in 2001 by Dan Gates in Grants Pass as a place where those interested in robotics could share their ideas and work together to overcome the obstacles they faced in their own robotics projects.

In 2002, SORC joined the Robotics Society of America (RSA) and changed its name to the Southern Oregon Robotics Society (SORS). Under the non-profit status of the RSA, the SORS began getting involved in the community by providing robotics demonstrations and workshops for local schools, the Grants Pass & Cave Junction chapters of the Boys & Girls Club, Walk-the-Rogue, Josephine County Fair, Breast Cancer Awareness, Boatnik Parades, Asian Festival in Eugene, Boy Scouts, Girls Scouts, KTVL Kid's Day and the ScienceWorks Museum in Ashland to name only a few. In 2002, the SORS hosted its first RoboMaxx event at the Jackson County Fairgrounds in Central Point and RoboMaxx II & III the following years at the Josephine County Fairgrounds in Grants Pass. In addition to its volunteer workshops, the SORS has also raised funds for the Boys & Girls Clubs and Toys for Tots.

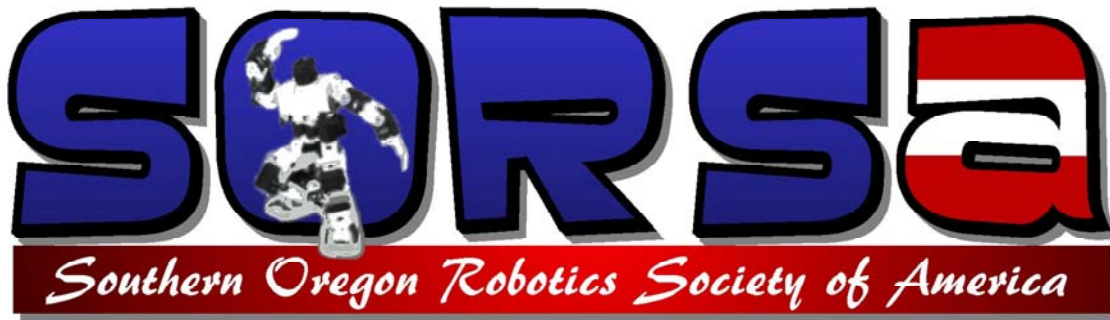
Club members Dan Gates and Jon Peterman have appeared on Tech TV's Screensavers, KVMU Fox Channel 26 and Local Access TV. A couple of Dan Gates' robots were discovered through the club's website by Canlaws Productions and were used in the filming of Twentieth Century Fox's "I, Robot" starring Will Smith. Unfortunately, the footage was not used in the final cut of the movie.

Now the SORS has reformed in Medford with a renewed commitment to its original vision as outlined below. We are looking forward to the potential of new membership and community involvement in the Medford area.

What is Our Purpose?

The purpose of SORSA is five-fold.

- 1) To provide aspiring roboticists a friendly and encouraging atmosphere to exchange ideas and reap the benefit of fellow members' strengths.
- 2) To provide inspiration and provoke the imagination of its members.
- 3) To actively show our commitment to the community by participating in and hosting local events.
- 4) To offer kids, who may not otherwise have the opportunity, the resources to explore technologies of the future in a way that is fun and educational.
- 5) And most of all, to have fun building robots.



What is a Robot?

You can ask 20 people that question and easily get 20 different answers. There are industrial robots, toy robots, remote-controlled robots, Battlebots, military robots, space robots, household robots (Roomba), medical robots and, according to Webster's Dictionary, even your air conditioner could be considered a robot. However, for the purpose of our group, we would like to more specifically define a robot as being autonomous, having all of the following characteristics:

1. A robot must be mobile. (It cannot be bolted to a surface. It cannot be tethered to a computer, a power supply or a human being, even by remote control).
2. A robot must be able to sense its environment (SIE). (Using anything from infrared ranging, motion detection, ultrasonic ranging and even bump sensors to name a few).
3. A robot must have brains on board (BOB). (The ability make decisions based on sensory input and to maneuver within and/or manipulate its environment).

What Does Robotics Involve?

Basically, robotics is made up of three major disciplines: Mechanical Engineering, Electronics and Programming or MEEP for short.

Mechanical Engineering is a discipline that involves the application of principles of physics for analysis, design, manufacturing, and maintenance of mechanical systems. For robotics, it requires an understanding of core concepts including mechanics, kinematics, fluid mechanics and energy. This provides the platform or skeleton from which the rest of the robot is built.

Electronics is the branch of technology concerned with the development and application of electronic components, integrated circuits or electrical systems. For robotics, it provides the electrical ability to process input and control output. Essentially, this is the robot's nervous system.

Programming is the process of writing, testing, debugging/troubleshooting, and maintaining the source code of computer programs. This source code is written in a programming language. The code may be a modification of an existing source or something completely new. The purpose of programming is to create a program that exhibits a certain desired behavior.

The challenge of robotics is overcoming the roadblocks along the way. For instance, a robot skeleton must be built from materials strong enough to function and carry the weight of all its components. Stronger materials usually mean more weight. More weight requires stronger motors to move the robot. Stronger motors require more power or batteries. More batteries add more weight therefore creating a vicious cycle. The key is in finding the "sweet spots" where there is a balance between weight, motors power and power supply.

Robotics Quotes

"...no one can say with any certainty when--or even if--this (robotics) industry will achieve critical mass. If it does, though, it may well change the world...as I look at the trends that are now starting to converge, I can envision a future in which robotic devices will become a nearly ubiquitous part of our day-to-day lives... We may be on the verge of a new era, when the PC will get up off the desktop and allow us to see, hear, touch and manipulate objects in places where we are not physically present."

-Bill Gates, Microsoft

"Robots may rule the world someday. Do you want them all to be Japanese?"

-Dan Gates

"There are 10 types of people in the world. Those that understand binary and those that do not."

-Unknown

"Number Five is alive!"

-Number 5 (Short Circuit)

"Danger, Will Robinson!"

-Robot (Lost In Space)

"Just as some newborn race of superintelligent robots are about to consume all humanity, our dear old species will likely be saved by a Windows crash. The poor robots will linger pathetically, begging us to reboot them, even though they'll know it would do no good."

-Anonymous

"You end up with a tremendous respect for a human being if you're a roboticist."

-Joseph Engelberger, quoted in Robotics Age, 1985

"I'm completely operational and all my circuits are functioning normally—"

-Hal (2001, A Space Odyssey)

"The overall mission is to find ways of bringing robotics into useful interaction with people."

-Colin Angle

"The first practical industrial robot was introduced during the 1960s. By 1982 there were approximately 32,000 robots being used in the United States. Today there are over 20 million."

-Price Pritchard

"For now, we assume that self-evolving robots will learn to mimic human traits, including, eventually, humor. And so, I can't wait to hear the first joke that one robot tells to another robot."

-Lance Morrow

"The Encyclopedia Galactica defines a robot as a mechanical apparatus designed to do the work of a man. The Marketing Division of the Sirius Cybernetics Corporation defines a robot as "Your plastic pal who's fun to be with.""

-Douglas Adams (The Hitchhiker's Guide to the Galaxy)

Robotics Links

Club Links

SORSA Website: <http://www.sorsa.org>

SORSA Forum: <http://tech.groups.yahoo.com/group/sorcgroup/>

RSA Forum: <http://tech.groups.yahoo.com/group/sfrsa/>

Other Robotics Clubs - Forums and Websites

Portland Area Robotics Society (PARTS): <http://tech.groups.yahoo.com/group/PARTS/>

Seattle Robotics Society (SRS): <http://tech.groups.yahoo.com/group/SeattleRobotics/>

Dallas Personal Robotics Group: <http://www.dprg.org/>

TRaCY Robotics: <http://tech.groups.yahoo.com/group/theroboticsclub/>

Online Robotics Stores & Suppliers

ISORC Technologies: <http://www.isorc.com/>

Acroname Robotics: <http://www.acroname.com/>

All Electronics: <http://www.allelectronics.com/>

Alltronics: <http://www.alltronics.com/>

BGMicro: <http://www.bgmicro.com/>

Budget Robotics: <http://www.budgetrobotics.com/>

Digi-Key: <http://www.digikey.com/>

Electronic Goldmine: <http://www.goldmine-elec.com/>

Hobby Engineering: <http://www.hobbyengineering.com/>

Hosfelt Electronics: <http://www.hosfelt.com/>

HVW Technologies: <http://www.hvwtech.com/>

Jameco Electronics: <http://www.jameco.com/>

Lynxmotion: <http://www.lynxmotion.com/>

Mouser Electronics: <http://www.mouser.com/>

New Micros: <http://www.newmicros.com/>

Pololu: <http://www.pololu.com/>

Solarbotics: <http://www.solarbotics.com/>

SparkFun Electronics: <http://www.sparkfun.com/>

Weird Stuff: <http://www.weirdstuff.com/>

Zagros Robotics: <https://www.zagrosrobotics.com/Index.asp>

Instructions for Using the Forum

To use the SORSA forum, you must first have a Yahoo account. Go to www.yahoo.com to set up your FREE account. Once you have a Yahoo account, go to <http://tech.groups.yahoo.com/group/sorcgroup/> or click the DISCUSSION BOARD link from the SORSA website. Click the button that says JOIN THIS GROUP. Your request to join will be sent to the moderator for approval. You will receive an e-mail when you are approved, which is usually within 24 hours.

Membership in the SORSA Yahoo forum is open to everyone with an interest in robotics. However, applications are screened by a moderator to filter spam, so when prompted, please provide a valid reason for joining the group. Generic comments like "I want to join your group." are always rejected as spam.

Club Rules

- 1. Allow other members to speak without interruption, ridicule or condescension.**
- 2. Show all members the respect you expect from them.**
- 3. To maintain a family-friendly environment, foul or offensive language and intoxicated individuals will not be allowed.**
- 4. Disrupting the meeting through rowdiness, fighting and general misconduct will not be allowed.**
- 5. Look, but don't touch other members robots.**
- 6. Potentially dangerous robots must only be operated in a safe and suitable environment.**
- 7. Obey the rules of the host establishment.**
- 8. Children under the age of 15 must be accompanied by an adult who is responsible for their behavior.**
- 9. At all SORSA events, present yourself in a manner that reflects positively on the group.**
- 10. Harassment, sexual or otherwise, will not be tolerated.**

New Member Questionnaire

Name: _____ Age: _____ Sex: M F

How did you find out about SORSA? _____

What is your education level:

Grade School: Grade completed? _____

High School graduate/GED

College: How many years? _____ What was your major? _____

University: Degree held? _____ What was your major? _____

What level of robotics are you at?

Beginner: I know nothing about robotics but I want to learn.

Intermediate: I know a little about robotics, but I need help with a few areas.

Advanced: I know a lot about robotics and would like to share my knowledge with others.

Professional: I am a career or retired robotics engineer.

Evolutional: I am a robot.

What do you hope to gain from this group? (check all that apply)

I want to see what's going on in robotics.

I want to get started in robotics.

I want to get help with current robotics project(s).

I want to help others by sharing my expertise

I want a venue to compete my robots.

I want to explore the possibilities of a career in robotics.

I want to discuss the philosophy of robotics

In which areas of robotics do you excel? (Rate yourself on a scale of 0-5 for each area)

Mechanical Engineering – the physical aspects of robotics including design, construction and movement of the robot.

0 1 2 3 4 5

Electronics – the electronics aspects of robotics including circuit design, soldering and the use and regulation of power.

0 1 2 3 4 5

Programming – the instructional aspects of robotics including writing and editing program code knowledge of computer languages.

0 1 2 3 4 5

How much do you want to be involved in community events/volunteering?

I am not interested in any community involvement.

I am interested in minor behind-the-scenes involvement.

I am interested in fundraising activities.

I am interested in leadership roles or public relations

I am interested in organizing events and volunteers.

I am interested in providing funds or supplies.

Have you built any robots of your own? **Y N** If yes, how many do you have? _____

What type robots are you most interested in?

- _____ Radio-Controlled or remotely operated robots (Battlebots, Mars Rover, etc.)
- _____ Military and defensive robots (DARPA, etc.)
- _____ Autonomous competition robots (mini-sumo, minesweeper, maze solver, line following, etc.)
- _____ Household robots (Roomba, etc.)
- _____ Entertainment robots (Sony SDR, Aibo, etc.)
- _____ Robot toys (Robosapien, Pleo Dinosaur, Wall-E, etc.)
- _____ Movie robot replicas (R2D2, Wall-E, B9, etc.)
- _____ Humanoid robots (Honda Asimo, etc.)
- _____ Industrial robots (Robotics arms, CNC machining, etc)
- _____ Flying robots (drones, etc.)
- _____ Other: _____

Are you interested in robot competitions? **Y N**

Have you ever competed a robot? **Y N**

If yes, what categories? _____

What suggestions or comments do you have for the group? _____
