

RSSC Meeting:

Ron Rose; Talk on Sensors based on CdS and LED elements

Color detection using CdS Cells and LEDs.

Use a CdS cell that is tuned to the frequency of the color.

Look at the illuminated resistance of three cells and then take differences to determine the color.

[Lee filters](#) sells a pack of 50 filters that give the spectral response of the each of the transmission filters. [You](#) can also buy sets of Rosco Filters on Amazon.com. Or you can get a free swatch book from [Lee](#). These filters can be used in place of specific CdS cells.



Difference between LED and phototransistor. One has two leads and the other has three. (Some times) Often phototransistors only have two leads. Also, LED has a smaller reverse voltage.

Thus an LED can be used as a color sensor since the LED is most sensitive to the frequency it would emit.

There is a very nice discussion of this topic on Robot Room: [Color Sensor from a Reversed LED and Op Amp](#).

Business Meeting:

Over \$200 in the treasury. Next months talk will be Forward and inverse Kinematics for robot arm positioning by Mason

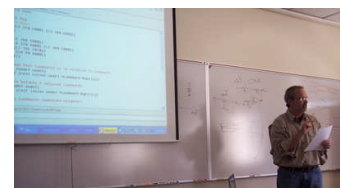
Contest coming up in June on “Pick up your room” Details at the website: There will be trophies!

Show and Tell:

Jim showed using a flashing LED, camera and roborealms to track the end effector of a robotic arm. The LED flashes at half the frame rate of the camera. The differences between the frames can be detected very clearly!



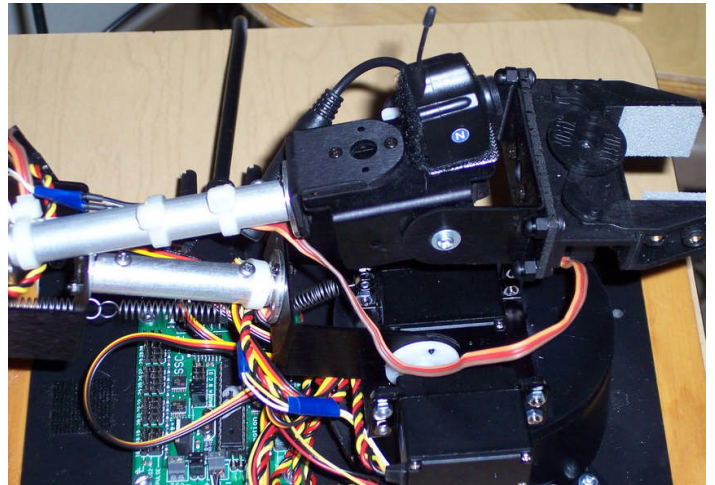
Bruce talked about navigation in Lisp. Bruce has developed a way point optimization program that searches through a list of connected navigation points and finds a path through the way points. He also demonstrated the recursive nature of lisp.



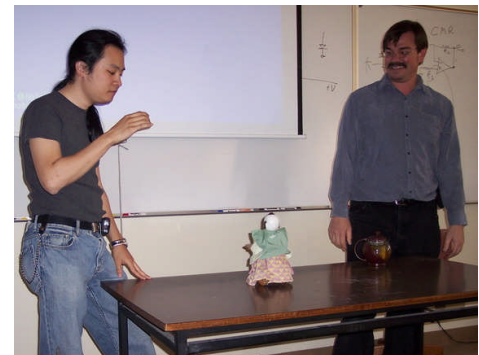
Martin demonstrated a five axis robotics arm that is controlled through the serial port. The arm is made from parts of the [Servo Construction kit](#). The arm uses roborealms to track a red object in two dimensions. He

showed two attempts at building a servo controller using a Pic and a Atmel microprocessor respectively. He finally bought a SSC32 servo controller. He also showed the Vex robotics system and encouraged people to attend the [World Technical Robotics Championship](#) at Cal State Northridge on May 4th.

Brian showed a miniature [two motor hexapod](#) from radio shack that has two touch sensors on the front and a microphone. The hexapod navigates around and enclosed space. Costs \$9

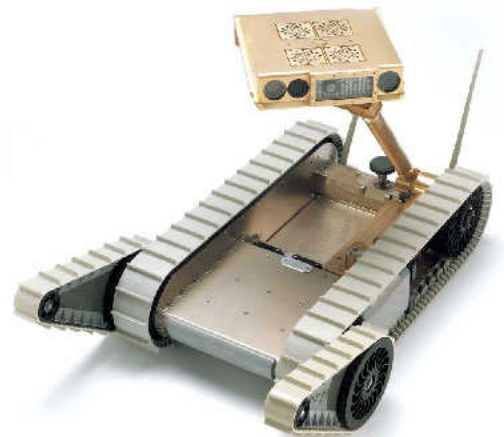


Tim talked about Japanese Tea Serving robots and demonstrated this mechanical robot driven by gears and cams. The tea was excellent.



John showed his four wheel drive chassis and stand. The stand supports the axels directly. If the chassis is loaded then the wheels turn in and out affecting the steering of the chassis. Currently he is using a Picaxe 14M to drive the speed controller on the chassis.

Steven talked about two new features in [Roborealm](#). Flatten flattens images. The other new module takes an overexposed and underexposed image which are merged. Roborealm also now allows you to search for modules. Steven also went to the [Robo business conference](#). Remote operated telepresence devices are a huge segment of the robotics market funded by the military. (packbot etc) Quality of Life robots. Robots to help the elderly. Coroware PC based robot \$2-3k. PC on wheels. Higher resolution compasses for odometry? Gears educational systems. Schunk robotics arms. Using Segway as a robotics base. Security is another big industry for robotics. Robotics in agriculture and mining. [Carnegie Mellon](#) built crusher, haptic interface system, Tank interactive Leaf like robot.



Marty built a chassis from a four wheel drive truck. Switchable from RC to autonomous mode.